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Forging New Horizons

The Imperative for USAF Strategic Planning

The last strategic planning vision for the United States Air Force was put forth in 1947 by Hap Arnold with the advice and assistance of his scientific advisor, Dr. Theodore von Kármán. The report, *Toward New Horizons*, placed airpower in the context of post-WWII scientific developments and described how the Air Force should organize and invest to capitalize on those developments. Since then, there has been no comparable overarching vision of the kind of Air Force we will need 20 to 30 years down the road. I served 35 years in the Air Force in cockpit, command, and staff positions up through vice chief of staff, and I have no recollection of any senior Air Force leader putting forth a long-range strategic planning vision of the US Air Force's future and laying out the road map and capabilities needed to get there.

The strategic environment we face today presents incredibly complex challenges. In the future, we will confront those same challenges—compounded by increasing competition from rising peers such as China and a resurgent Russia—that have a full range of technological, military, and economic capabilities with which to threaten our security. Today we are fully engaged in Iraq, Afghanistan, and the Middle East in general, and we are fighting to survive. The lion's share of the United States' attention goes to Army and Marine Corps ground forces, while Air Force calls for recapitalization fall on deaf ears in the administration and Congress. The Air Force budget plea is for an additional $20 billion per year. It is not being heard precisely because Airmen have not made a succinct long-range strategic case, which could help to underscore what we see as critical needs.

To fill this strategic gap, I believe that the Air Force must establish an independent long-range strategic planning group, headed by a deeply experienced, forward-looking general officer and staffed with senior experts in air, space, and cyber warfare; technology; intelligence; culture; and threat assessments. The group's charter would be to examine scenarios we could face in 2020 and 2030 in sufficient detail to identify and articulate potential threats and propose strategies and capabilities the Air Force will need to counter them. The group must be experienced, well manned, and independent of the day-to-day struggles Air Force leaders face in the here and now. Consider the following issues:

- There is a growing Chinese economic, military, and diplomatic presence in Latin America, Africa, the Middle East, and the Pacific. China also fields aggressive space programs with the potential to disrupt military and commercial space activities. Along with these troubling developments, Chinese computer hackers currently pose the most aggressive and dangerous cyber threat to the US economic and military infrastructure.
    - If current trends continue, will China dominate trade in these strategic areas?
    - Will it extend its military capabilities, with a powerful blue-water navy, to control the sea lanes from the Indian Ocean to Japan?
    - Will it build a strategic air force to support its goals?
    - What air, space, and cyberspace investments must we make today and in the future to preserve US security against this potential competitor?
- Russia has emerged from its decline of the 1990s fueled by capital from oil and natural gas and backed by a strong, aggressive central government. Russia's conventional military forces may be smaller than those of the Cold War era, but its strategic nuclear forces still have the ability to hold the United States at risk. In the diplomatic realm, Russia has adopted an adversarial stance toward the United States with respect to key strategic interests such as Iranian nuclear proliferation and US support for European missile defenses.
    - Will Russia continue to develop its strategic forces as a challenge to the United States in Europe and in the Middle East?
    - Will Russian support for Iranian nuclear programs increase the instability in the Persian Gulf and the Middle East?
    - Will the Russian oil and natural gas leverage over European states shift the balance in Europe toward Russian interests?
    - Will Russian exports of next generation aircraft and antiaircraft missile technologies result in strategic and operational risk for US forces?
    - Will China and Russia create a strategic alliance to counter their perceptions of US intentions?
    - How will a growing, sophisticated India play in this strategic future?

An Air Force long-range strategic planning group needs to have expertise to examine these, and a host of other, possibilities. We should have intelligence expertise to look at where we think our future adversaries are headed. We

must have the experts in technology to predict how military technology will evolve, both for us and our potential adversaries, and most particularly, we must factor the long-range impact and evolution of cyber warfare into our projections. We must also have expertise in culture and economics to predict how China and Russia will evolve. It is only by thorough and careful long-range pragmatic analyses that we can prepare to address these multifaceted evolutions from a strategic perspective.

Then, based on our best judgments, we need to examine our own Air Force capabilities and project how they must evolve to meet potential threats. The future we face will require air, space, and cyberspace capabilities that can confront a full range of challenges. We already experience daily attacks from adversaries in the cyber world—these attacks will continue and become more sophisticated as technologies and tactics evolve. Conventional challenges will also become more sophisticated as adversaries acquire new technologies, develop countermeasures designed to negate our advantages, and forge alliances to constrain our actions. Finally, rogue states and emerging peer competitors will attempt to balance, and ultimately defeat, our forces should competition turn into war. Airmen have a responsibility to assess the likely outlines of these future challenges—General Arnold had the strategic foresight to lay the foundations for the Air Force that won the Cold War. Today, we must develop a similar strategic plan that will guarantee our security for the new horizons that lay before us.

A powerful Air Force long-range strategic planning group cannot be ad hoc. It must be an institutional entity, an assistant chief of staff function, reporting directly to the secretary and the chief of staff. Its views, findings, and recommendations must be continuously provided to Air Force leaders and combatant commands. It must also be available to other DoD elements. If it is sustained by Air Force leaders, it can become a powerful capability to illuminate and project our Air Force future and its needs.

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Sovereign Options

Securing Global Stability and Prosperity
A Strategy for the US Air Force

Michael W. Wynne, Secretary of the Air Force

The mission of the United States Air Force is to deliver sovereign options for the defense of the United States of America and its global interests—to fly and fight in Air, Space, and Cyberspace.

In 2007, Congress asked the Air Force to explain its strategy for organizing, training, and equipping its forces. The question is important. The Air Force spends a great deal of effort programming its forces but surprisingly little explaining how the forces it builds support the nation's needs. We say in our mission statement that we deliver *sovereign options* for the defense of the country and its global interests, but we have not made as much of an effort as we could to explain what *sovereign options* are or to link our mission to the particular mix of forces we have requested from Congress. We do our contingency planning and write our strategy memos for internal consumption, but we often neglect to share our thinking with the nation.

Stated briefly, as the Air Force builds its forces, its central goal is to offer the nation a flexible mix of capabilities that allow it to act in a world of growing strategic uncertainty. We program our forces to allow policy makers to act across the spectrum of violence, from strikes against individual terrorists to major-power wars. We construct our forces to provide presidents and combatant commanders the widest possible range of options to assure friends and dissuade and deter those who seek to use violence to pursue their ends. We assemble our forces so that, when we must fight, our air, space, and cyber forces provide the nation with capabilities that maximize the chances that we will be able to pit our asymmetric advantages against our opponents' vulnerabilities.

Michael W. Wynne is the Secretary of the Air Force, Washington, DC. He is the 21st Secretary and was confirmed on 3 November 2005. He is responsible for the affairs of the Department of the Air Force, including the organizing, training, equipping, and providing for the welfare of its nearly 370,000 men and women on active duty, 180,000 members of the Air National Guard and the Air Force Reserve, 160,000 civilians, and their families. With an annual budget of approximately $110 billion, he ensures the Air Force can meet its current and future operational requirements.

The Air Force provides the United States with powerful advantages that it does not obtain from land or maritime services. We currently possess unparalleled advantages in air and space—domains that cover the entire surface of the earth. So long as our air and space superiority forces allow us to dominate these domains, we will be able to observe any part of the planet, communicate that information to where it will do the most good, and project force to that location. The capabilities we bring to the fight allow the Air Force to act alone or to magnify the power of all joint and coalition forces.

The US Role in the World

According to the US Constitution, the government of the United States is responsible for providing for the common defense and promoting the general welfare. From the beginning, meeting these goals has required a military capable of defending the homeland and of projecting power to defend our interests abroad. Since 1775, we have maintained a force for homeland defense, and as early as 1801, when Pres. Thomas Jefferson authorized raids on Barbary pirates, have used our expeditionary forces to promote the general welfare.[1] In the process, not only has our own republic become a bastion of security and prosperity, the peaceful nations of the world have benefited from the zone of stability our military has helped to create.

Over the last century, the scope of US international responsibility has vastly increased, but the Constitutional imperatives that guide our military's mission remain unchanged. When scholars look at the role the United States has played in the international system since WWII, they sometimes compare it to the *Pax Romana* or the *Pax Britannica* of previous centuries. There is some truth to this, but if there is an American *Pax*, it is a very generous one; the sort that seeks to increase the well-being and liberty of all who wish to join and asks only that those who do not join refrain from using violence against those who do.

The benefits the international system derives from US leadership are impressive. For over half a century, the United States has been the world's foremost defender of international stability and has taken the leading role in building and leading the coalitions that preserve it. This leadership led to the fall of the Nazi and Soviet regimes and provided the stable backdrop against which countries like Japan, Germany, and China initiated their economic miracles. It also contributed to 60 years without major-power

war, the establishment of open international trading relations, and the unprecedented spread of democratic governance.

Unfortunately, in the current era, many have become so accustomed to global stability that they wonder why the United States continues to invest in its armed forces. Over the last two decades, we have allowed our strategic forces to atrophy as our major-power competitors have increased their own; and we have readily discussed peace dividends as we stretched our combat forces to the breaking point.

It is true there is a great deal of goodwill in the international system today, yet the current security and prosperity enjoyed by those living within the borders of the United States and its allies are based on more than goodwill. Major-power competitors regularly probe US defenses in the air and continuously attack our military infrastructure in cyberspace. Mid-range competitors persistently purchase technologically advanced surface-to-air missiles and fighters that undermine our deterrent forces. Numerous actors have the capability and desire to disrupt the existing system. Since the last days of the Cold War, US-led coalitions have fought wars in six countries—Panama, Kuwait, Bosnia, Serbia, Afghanistan, and Iraq—and participated in many other military operations.

Perhaps more important than the wars we have fought over the last two decades are the wars we have *not* fought. It has been many years since an opposed major power threatened us directly. Our globally deployed forces, our alliances and coalitions, and the quality and quantity of our strategic forces signal states around the world that aggression does not pay. This type of *peace through strength* was the dream of the League of Nations and later of the United Nations, but neither organization achieved the consensus necessary to carry out its vision. Today the United States, acting with allies or ad hoc coalitions of the willing, has let both the peaceful and violent states of the world know through its action that we will preserve peace.

The impact of this deterrent presence cannot be overstated. In most regions of the world, peaceful states no longer feel the need to build large armed forces to defend against bellicose neighbors, and many potentially revisionist states understand that the resource requirements to compete militarily with the United States are too high—our own capability deters such conflicts from even emerging. While we fight vicious battles on the frontiers, we must not forget that the zone of stability we have created through our vigilance and forward presence is the largest in history.

This is not a responsibility the United States can shirk or hand off to another state or organization. No other country in the world today is able to pick up the US leadership mantle. No other country or coalition is able to project power globally; nor could anyone else develop that capability in the face of the current antiair and antisea threat environment. From one perspective, America's existing global power projection capability is a unique historical accident. At a time when the United States controlled almost half of the world's GNP, it also faced a bellicose Soviet Union. This combination led the United States to spend unprecedented sums on its strategic forces (approximately half of its robust defense budget on the Air Force alone). The global web of bases, air refueling aircraft, strategic bombers, satellites, and air superiority technology has served us well for half a century. Like the legendary Roman roads that enabled the *Pax Romana*, or the fleet and global network of naval bases that underwrote the *Pax Britannia*, US airpower vastly magnifies our ability to project power beyond our borders.

Maintaining these strategic forces carries a price tag, but the United States does not fight so regularly or deter so thoroughly for purely altruistic reasons. Without the peaceful environment facilitated by American diplomacy and arms, the United States would not enjoy its current level of security and prosperity. The security and economic health of the United States are closely intertwined with the stability and prosperity of the international system. Our citizens enjoy peaceful lives at home because no major power believes it can challenge us and win; they prosper because we protect the global commons. The United States cannot neglect its position of leadership without grave consequences. When Rome surrendered its mantle of leadership, the lights went out in Europe for a thousand years. Between the time the British Empire declined and the United States rose, the world fought two world wars and numerous lesser conflicts. It is true that the role the US military plays in the world today carries a price tag, but is more than worth the cost.

The Threats We Face

In the current international system, the United States and its allies face two principal threats. The first comes from major-power opponents with access to modern conventional and nuclear weapons. It is easy to dismiss the possibility of major-power war in today's peaceful system, but big wars, with their apocalyptic potential for suffering and destruction,

have a tendency to happen unexpectedly. Even when they do not occur, America's opponents often base their demands on their perception of our ability to fight and win wars. Such major conventional or nuclear wars are by far the gravest military threat we face, and the perception that we are too weak to stand behind our global commitments is the surest route to such a war. Above all, the US military must prevent major-power opponents from believing they can benefit from using their military power against America's vital interests.

The most common threats the United States faces, however, come from weaker state and nonstate actors. At least since the fall of the Soviet Union, the most common problems the US military has faced come from opponents that engage in "salami-slicing" tactics. Our opponents are as familiar as we are with the Weinberger Doctrine.[2] They know that we prefer to fight wars where political objectives are clear and where vital national interests are unquestionably at stake. They take advantage of this by nibbling away at the edges of stability. When should the United States have acted against al-Qaeda and its state sponsors? When it began raising money and training killers at its bases in Sudan? When it co-opted the government of Afghanistan? When it bombed US embassies in Tanzania and Kenya? When it attacked the USS *Cole*? Against a country that has only one military option—all-or-nothing wars—asymmetric tactics are a powerful weapon.

In a similar vein, our opponents have become adept at choosing the location and types of conflicts we fight to pit their strengths against our weaknesses. Islamic radicals' terror bombing of US targets in the United States and around the world before 9/11 is an example of the enemy choosing where we fight. Iraqi and Afghan rebels' use of guerrilla warfare in ongoing conflicts is an example of enemies choosing the type of conflict to suit their own strengths. Again, against a country armed with only one option for fighting wars, this strategy can be effective.

Nor are al-Qaeda and various rebel groups the only opponents who have attempted to exploit the US preference for all-or-nothing war. The last two decades contain a rogues' gallery of opponents that have used these methods. Sudanese, Somali, and Rwandan killers have launched genocide campaigns within their own borders knowing that their actions would probably not elicit a full-scale US invasion. Leaders in North Korea and Iran have taken advantage of the US global preoccupation to pursue nuclear weapons knowing the United States is unlikely to launch another regime change at-

tempt aimed at either country. The United States cannot deter them with an option they believe the United States will not employ.

One can wonder whether these asymmetric tactics are having an impact on America's ability to perform its global mission. If not stopped, these tactics could eat away at international stability and wear down US military capabilities and political will. After seven years of the most intense and sustained operations since the Vietnam War, our tactical forces are described as stressed. Our strategic forces are on hold, with minimum modernization and despite our great maintainers, aging and in general decline. After most US forces left Iraq, the Air Force stayed to contain that regime through Operations Northern and Southern Watch. Eighteen years later we are still there. Year after year, we put off recapitalizing our inventory. Today we are flying the oldest equipment in our history. As our opponents modernize their air and space technology, we are focusing our investment budgets on fighting current wars. As our strategic margin is whittled away, so is our capability to deter and dissuade our most dangerous competitors. It is our strategic forces, not our tactical forces, that deter our major-power opponents. Unless their general decline can be arrested and modernization efforts restored, the US military will eat into the margin we have enjoyed for decades and risk its ability to perform its most important function.

The Air Force Strategy: Sovereign Options

In response to the current threat environment, the US Air Force has implemented a strategy of *sovereign options* to guide it as it organizes, trains, and equips its forces. *Sovereign options* refer to the spectrum of choices air, space, and cyberspace capabilities offer US policy makers for solving problems. For Airmen, *sovereign options* communicate layers of meanings. On one level *sovereign options* represent the unique options that only air, space, and cyberspace power can provide. In this sense, Air Force strategy reflects how Airmen contribute directly to solving problems. In another sense, the term *sovereign options* means that Airmen provide ways to enrich strategies and operations by contributing capabilities that combine with those of other services or agencies, Finally, *sovereign options* communicate that Airmen provide capabilities to secure US goals and interests without involving the resources or territory of other states or entities—only Airmen can deliver air, space, and cyberspace effects anywhere on the planet from the sovereign territory of the United States with speed, precision, and global reach.

Our goal is to provide options that maximize America's ability to tailor its responses to meet current and future threats across the continuum of conflict.

At the lower end of the spectrum, the concept of Air Force *sovereign options* allows the United States to provide humanitarian aid and disaster relief in order to save lives and sometimes defuse tensions before they erupt into conflict. After the tsunami of 2004 swept across Southeast Asia and after the earthquake of 2005 devastated Pakistan, Airmen offered the first contact many in those countries had with the United States and provided a powerful corrective to the extremist propaganda that dominates the media in those regions. During the opening days of Operation Enduring Freedom, disaster relief took on another aspect. As we fought Taliban forces in Afghanistan, the Air Force dropped food and leaflets to villages as part of a successful effort to communicate that our war was against the Taliban regime and their al-Qaeda allies, not with the Afghan people who suffered under their lash. Only the Air Force had the capability to deliver these effects directly to these inland regions.

After Operation Desert Storm, the United States found yet another way to use its air assets in the gray area between peace and war. Throughout the 1990s, Saddam Hussein responded to UN sanctions and weapons inspectors with *cheat and retreat* tactics. These tactics were a variant on the so-called *nightmare scenario* of the Gulf War, in which the coalition feared Hussein would comply with the president's demand that he leave Kuwait, only to invade again after US ground forces left the theater. Since the cost of repeated ground deployments would be prohibitive, Saddam could use these tactics to achieve his goals while simultaneously wearing down the United States. The use of no-fly zones, however, backed up by a single brigade-sized land element, contained Hussein for over a decade. Similarly, rather than deploy US ground forces into a civil war in the Balkans, for over three years we used airpower, first to limit the aggression of the Bosnian-Serbs and then as the basis for a coercive air campaign that worked with indigenous ground forces to force a peace agreement. These innovative options allowed US presidents to defeat our opponents' plans at an exceedingly low cost in US lives and treasure.

At a higher point on the spectrum of conflict, for over 50 years, the visible movement and basing of Air Force assets have often been the clearest method the United States has, short of using force, to signal its commitment during crises. During the Cuban Missile Crisis and the Yom Kippur War, the visible

dispersal and movement of aircraft provided US presidents with an instantly recognizable means to convey their intent to the Soviets without actually using violence. During the Berlin Blockade, airlift provided a means short of war to assert our commitment to Berlin. More recently, the presence of Air Force assets in the Persian Gulf, Guam, and many other bases conveys to friends and potential opponents alike the strength of our commitment to those regions. The small manpower footprints of Air Force bases also are relatively unobtrusive and allow us to convey commitment while limiting negative effects on local economies and politics.

In recent wars, the Air Force has offered policy makers another option for fighting and winning without risking the lives of large numbers of US servicemen and women. In Operation Deliberate Force, Operation Allied Force, and more recently, Operation Enduring Freedom, the US Air Force worked directly with indigenous ground forces to defeat the genocidal armies of the Bosnian-Serb, Serbian, and Taliban regimes. Better yet, when combat subsided, the presence of friendly indigenous armies on the ground greatly eased the transition to nation-building operations. Working with indigenous populations increases the likelihood that there will be a friendly population to work with after the fighting.

Against the current counterinsurgency in Iraq and Afghanistan, the Air Force has provided even more options. Unlike in previous guerrilla wars, because of the sensors, range, and accuracy of our UAVs, space, and manned aerial assets, our opponents have been unable to mass. When they try to mass, we quickly find and destroy them from the air. By preventing the enemy from acting in large groups, Airmen save countless US lives, magnify the capabilities of our own ground forces, and provide the Iraqi government time to build its institutions and security forces.

At the far end of the spectrum of violence, the Air Force presents our country with its ultimate force in combat. In major conventional operations, no enemy can mass or maneuver so long as the United States possesses air dominance. In Operations Desert Storm and Iraqi Freedom, airpower penetrated enemy defenses and decimated our opponents' ground forces. Air, space, and cyber sensors tracked both the enemy and coalition forces in real time. Our global space and cyber grid communicated that information to joint and coalition forces. For nearly two decades, the United States has been able to win conventional wars quickly and easily. Unlike WWII and Korea, where we suffered enormous casualties, in recent years our airpower technology has often allowed us to inflict hundreds of casualties for every

one of our own servicemen and women killed in combat. As nuclear weapons spread to new countries, Air Force ICBMs and bombers provide us with our ultimate deterrent force.

The Air Force derives its capability to provide *sovereign options* from its ability to simultaneously dominate air, space, and, increasingly, cyberspace. Our ability to operate freely across these domains is a prerequisite for US freedom of action. When we control these domains, we are able to provide our joint forces with Global Vigilance, Global Reach, and Global Power, greatly increasing the nation's overall military power.

- ***Global Vigilance*** is the persistent, worldwide capability to keep an unblinking eye on any entity—to provide warning on capabilities and intentions, as well as identify needs and opportunities.
- ***Global Reach*** is the ability to move, supply, or position assets—with unrivaled velocity and precision—anywhere on the planet.
- ***Global Power*** is the ability to hold at risk or strike any target, anywhere in the world, and project swift, decisive, precise effects.

The ability to dominate operations across the domains of air, space, and cyberspace magnifies the military power of US and coalition forces. Fielding a force of Airmen, trained and equipped to exploit the advantages of advanced air, space, and cyberspace technologies, combined with the strategic reach and power to exploit our dominance across the domains, extends our ability to deter and, if necessary, defeat our adversaries. The mix of technology and global presence supplied by the Air Force provides us with a historically unique ability to project power to assure friends and dissuade, deter, or defeat foes—the US Air Force is America's asymmetric advantage.

Implementing the Strategy

The Air Force currently provides joint and coalition forces with a bridge to the rest of the world and a colossal advantage on the conventional battlefield. This dominance of air and space capability has existed for less than 20 years and will only persist into coming decades if it is carefully nurtured. In addition, both may be lost if we do not improve our ability to fight in cyberspace.

The Air Force is able to achieve air and space dominance today because, at this time, it enjoys a significant lead over its opponents in those technologies and sufficient quantities of air and space craft to create global presence. When war involves air, space, and cyberspace, even small tech-

nological advantages in equipment often mean the difference between victory and defeat. As recently as the Vietnam War, the Air Force lost more than 2,200 aircraft because we failed to dominate the airspace over enemy territory. We had neglected air superiority's technological and operational art over the previous decade and paid for our neglect with lives and aircraft. Today we find ourselves in a similar position. We have neglected our air superiority technology since the 1980s. In recent years, opponents have developed advanced antiair and antispace technologies specifically designed to counter our inventory. This equipment is rapidly diffusing to potentially hostile states and nonstate actors.

Equally worrisome is the rapidly shrinking aerospace industrial base. Our strength and ability to capitalize on advances in air and space technologies is due in large part to our vibrant and diverse aerospace industry. America's asymmetric advantage in this important part of our economy and defense industry is in peril. Production lines have closed, skilled workforces have aged or retired, and companies have shut their doors. The US aerospace industry is rapidly approaching a point of no return. As Air Force assets wear out, the United States is losing its ability to build new ones. This erosion must be halted through increased investment.

Beyond advantages in technology, demonstrating America's commitment abroad requires an expeditionary Air Force. An underlying tenet of America's National Security Strategy is that America's military will engage forward in peacetime and fight forward in wartime. While long-range bombers and missiles are the ultimate guarantors of US security and power, expeditionary presence is the face of US deterrence and the indispensable source of *sovereign options*. The Air Force must field sufficient forces to sustain a rotational base without degrading our overall readiness for larger conflicts. The essence of *sovereign options* is this scalability; airpower provides options in peacetime as well as wartime. The mechanism for sustaining this rheostat of capability is our mature *air and space expeditionary construct* that provides joint force commanders with ready and integrated air and space forces to execute their plans. To maintain its expeditionary capabilities, the Air Force needs a force that is not only capable but also procured in sufficient quantities to avoid burning out an Air Force faced with continuous demands during times of both peace and war.

Underlying all Air Force capabilities is its strategic base. The Air Force can provide global vigilance, reach, and power only so long as it possesses robust space; intelligence, surveillance, and reconnaissance (ISR); missile

defense; and air mobility capabilities. Particularly important in this regard are our cyber capabilities. Today, our joint and coalition capabilities rely on collecting, storing, manipulating, and transmitting electronic information through the cyberspace domain. This allows us to find our opponents, process the information, route it to where it is needed, and guide our munitions to their targets. Increasingly, our enemies also depend on cyber systems. Safeguarding our own cyber capabilities while engaging and disrupting our opponents' capabilities is becoming the core of modern warfare.

Most immediately and critically, if the Air Force is to play its crucial role, we must develop and maintain technological leads in the areas of air-superiority fighters and penetrating next-generation bombers to hold targets at risk anywhere in the world. We must also field sufficient long-range and theater mobility and strike capabilities to assure dominance across all levels of war for the conduct of joint operations. We must continue to treat space as an operational domain by creating architectures and systems to provide the appropriate situational awareness and communication capability giving tactical-to-strategic advantage to leadership at all levels. This, as well, demands the US Air Force be resourced to meet our constitutional responsibility to "provide for the common defense" and allows our nation and our friends around the world to prosper.

Conclusion

US security and prosperity are best assured by working with other states to preserve the existing stable and prosperous international system. The Air Force contributes to US security by providing an array of *sovereign options* for decision makers. These options maximize our ability to assure friends and to dissuade and deter both small and large threats across the spectrum of operations. When opponents cannot be deterred, these options provide alternatives to invasion and occupation and increase the chances that we, rather than our opponents, will choose the types of wars we fight. In the event of war, the Air Force provides the nation with its most lethal—and proven—force for defeating major-power opponents. By controlling air, space, and cyberspace, the Air Force provides the nation with the capability to dominate across these domains and expands the options available to our sister services to dominate their respective domains. So long as the Air Force possesses a significant lead over potential opponents and maintains a global presence, the service will

continue to provide the nation with the means to lead the fight for global stability and prosperity—in turn guaranteeing our own. SSQ

Notes

1. Congress authorized Jefferson to have his commanders seize all vessels and goods of the Pasha of Tripoli "and also to cause to be done all such other acts of precaution or hostility as the state of war will justify." *A Century of Lawmaking for a New Nation: U.S. Congressional Documents and Debates, 1774–1875*, The American Memory Project from the Library of Congress, *Statues at Large*, vol. 2, 7th Cong., 1st sess., 1802, chap. 5, 130, http://memory.loc.gov/ll/llsl/002/0100/01680130.tif.

2. The Weinberger Doctrine was articulated by Secretary of Defense Caspar Weinberger in 1984. It suggests a list of principles governing the use of US military force.

Developing Twenty-First-Century Airpower Strategists

R. Michael Worden, Major General, USAF

What is of supreme importance in war is to attack the enemy's strategy . . . next best is to disrupt his alliances . . . the next best is to attack his army.

—Sun Tzu

MANY ARGUE that we are in a period of history with potentially cataclysmic dangers. Are we on the cusp of a series of dramatic upheavals? Will global demographic shifts, changing age structures, and population migrations lead to friction and ultimately violent conflict? Will rapid urbanization and unassimilated cultural enclaves collapse weak or failing states or paralyze others? Will the competition for energy and arable land or water lead to new tensions and violence? Will loose nuclear or biological weapons in the hands of those who hate America or its close allies lead to a tragic catastrophe? Will today's proliferation of "information," whether factual or not, increase cultural misunderstandings, tensions, and distrust between the perceived "haves" and "have-nots" and lead to violence? Will rising economic powers on the horizon surpass the United States by taking advantage of technological shifts, globalization, and our preoccupation with global security affairs? Will America maintain sufficient leverage into the future to assure its national security interests when, many would argue, economic, educational, scientific, technological, and diplomatic power seems to be shifting elsewhere?

Our involvement in a new kind of war with an implacable enemy who invokes an extremist brand of Islam against America's way of life, as well as that of our secular allies, is foremost on the security "screens" of "present-

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Maj Gen R. Mike Worden commands the US Air Force Warfare Center, Nellis Air Force Base, NV. He is a 1976 graduate of the US Air Force Academy and has served four assignments in Europe, four in the Pacific, and in combat and hostilities in Operations Desert Storm and Provide Comfort. The general has been Director of the Air Force Chief of Staff Operations Group, Director of Operations for US Forces Japan, and executive assistant to the commander of Pacific Command. He has also served as deputy commander for NATO's Combined Air Operations Center 6 and Director of Operational Plans and Joint Matters in the Office of the Deputy Chief of Staff for Air and Space Operations. Additionally, he has commanded an operations group in the Pacific, a wing in Europe, and an expeditionary wing during hostilities in Operation Iraqi Freedom. General Worden is a command pilot with more than 2,500 flying hours. He was recently selected for reassignment as vice-commander, Air Combat Command, Langley Air Force Base, VA.

minded" Americans. This enemy presents a tricky, adaptable threat, operating effectively inside traditional nation states as well as transnational entities using small, shadowy cells with sometimes shifting allegiances. It thrives in nontraditional domains using nontraditional means and is unabashedly unrestrained by established international norms of behavior, laws of armed conflict, or treatment of noncombatants. Even before the United States and its partners invaded Iraq, these extremists had declared a global war on us with a fanatical determination; we have no choice but to face this threat responsibly and persistently . . . or face the consequences. Nor can we afford to be too myopic on the present extremist threat; preparing for emerging conventional threats with sophisticated weaponry requires long lead times to develop and acquire effective countertechnologies and countertactics.

For example, we know potential adversaries of all types are pursuing missile technologies—ranging from rockets and mortars to cruise, ballistic, and intercontinental missiles with increases in range, accuracy, and lethal payloads. Many are cheap; all represent asymmetric and credible attempts to nullify the advantages opponents have traditionally enjoyed as a product of military superiority in training, tactics, and power. In sufficient numbers, these missiles could threaten to overwhelm defensive systems and cause great damage to even an advanced and mature military force. A case in point occurred in August 2006 when Hezbollah fighters in Lebanon used waves of relatively cheap rockets and mortars to present a serious challenge to Israel's ability to protect its citizens.[1] Could this be a pattern for future conflicts?

At the high end of the missile technology spectrum, we also witnessed in January 2007 the Chinese shoot down a satellite, creating an extensive space debris field requiring other satellites to consider expending precious fuel to avoid collisions. How then does our Air Force protect America's vital interests when potential Pearl Harbor–like events can occur at nearly the speed of light, and boundaries between military and civilian, military and commercial, and US and other nations' assets become increasingly blurred? Our best response is to develop Airmen who are strategists and who are strategically minded. Strategically minded Airmen study their profession and the evolving international environment to anticipate future security needs. Air strategists create plans for coping with both present and emerging challenges. The air strategist's first concern must be to gain and maintain sufficient access to the battlespace with acceptable risk. This usually infers gaining and maintaining space, cyberspace, and air superiority.

Let's start by looking a little deeper into space. Our joint force and our society are extraordinarily dependent on space. Our military increasingly relies on space for situational awareness, missile warning, intelligence, communications, weather, command and control, navigation, timing, and many other necessities. On the commercial side, some estimate that space contributes $90 billion per year to the US economy, including truck fleet management, credit card validations, pay-at-pump services, automatic teller machine withdrawals, high-speed Internet, traffic, weather reports, and almost all television and radio distribution. Therefore, space is already absolutely critical for global commerce and communications and, consequently, for our security—perhaps more so for the United States than for any other nation. Therefore, as a top priority, air strategists must protect our military and commercial assets in space; and failing that, they must be prepared to lose or reconstitute those assets. It will not be easy or cheap, especially since our Cold War constellation is running low on fuel and will likely need to be replenished or replaced within the next nine to 12 years.

Today, space primarily moves data for our information-reliant society. It uses electronics in the electromagnetic spectrum to collect, store, manipulate, and send data. We call that domain *cyberspace*. Cyberspace exists virtually everywhere today, and our nation relies on it heavily. It, too, is a strategic center of gravity and a vulnerability for the United States.[2] It is likely that cyber power today is what airpower was a century ago—postured to revolutionize warfare. We continue to focus on improving our defenses, but it is difficult in this complex domain to know what we don't know.

But what we do know is that space and cyberspace are now contested domains. This gives a whole new meaning to how the strategist understands and applies traditional airpower capabilities of speed, range, precision, and flexibility. Maturing in space and cyberspace introduced us not only to speed-of-light methods, bandwidth management, hypersonic projectiles, and more sophisticated use of the frequency spectrum, it also takes us to a level of speed, power, and consequence that requires prescient policies with a priori decisions designed to protect our growing dependence on those domains. Superiority in these domains is essential, or air and surface operations are at great risk. As other nations develop more offensive capabilities, they certainly will monitor how we respond to force being used in space and cyberspace. Even nonstate actors have ample freedom of action in cyberspace and reach their audiences quite effectively, to include conducting "terrorist universities" on the Internet.[3]

In the information age, media savvy adversaries know how Western media functions, how it can influence domestic and world public opinion, and how critical public opinion is in functioning democracies. They often stage or provoke attacks that can be embarrassingly filmed, portrayed, staged, and edited to have an immediate strategic effect via the Internet or via our "speed to the market" media, often in defiance of the full facts on the ground. Most agree we need to fare better in this "influencing public opinion" arena, which is of growing strategic importance in the information age and is accelerated by the technologies available while being complicated by laws and policies generally written for a past era. And if that weren't enough, Airmen also have to worry about other emerging cyber threats stemming from nanotechnology, passive detection systems, directed energy, plasmic shielding, and other sources.

Globalization, the dominating contextual influence of our time,[4] is upon us, and twenty-first-century national security policies and practices must address the reality that local disruptions have the potential to stimulate widespread political, social, ideological, and economic consequences. As such, the daunting challenge for our national security organizations, to include the US military and our Air Force, is to limit or prevent such disruptions by being able to respond to a variety of global threats, perhaps at a moment's notice. In so doing, we must ensure our national security interests, which include the preservation of our values and freedoms, as well as the free flow of goods and services on land and sea and in the air, space, and cyberspace—all so necessary for our economy and our society.

What twenty-first-century air strategists must first appreciate is that the nature of conflict and war does not change. It is rooted fundamentally in human nature—in greed and a thirst for power and self-interest.[5] While the nature of war does not change, the face of war does. This evolving face of war is influenced by previous experience, the possibilities of technology, acceptabilities within cultures, and political context. The strategists' grasp of the realities and opportunities within this context is key as it informs them of how best to utilize various means within the diplomatic, informational, military, and economic (DIME)[6] context.

We, like other nations, develop a "national style" for conducting military operations that reflects how we go about preserving our culture and values and maintaining our security. America's political, economic, diplomatic, and communicative approaches to solving problems and protecting its interests comprise this national style. America has used its relative

wealth and penchant for high technology to introduce sophisticated command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) with global reachback capabilities, stealth, unmanned aircraft systems, precision, and speed that have led to expectations for quick, decisive, low-casualty military conflicts.

So it is not surprising that our preferred way to ensure the military can fulfill its national security role in the current and emerging threat environment is to invest in twenty-first-century technology—specifically, technology that enables (1) active monitoring of potential threats, (2) rapid deployment, and (3) precise employment of nonlethal and, sometimes, lethal capabilities to achieve desired effects. Our Air Force manifests this in its major mission areas it calls "Global Vigilance, Reach, and Power."

Of course, there is more to a successful national security strategy than military technology—strong leadership, well-managed intelligence, an effective interagency process, and reliable coalition support, to name a few. But a nation whose strength and preferred style relies on technology, and that has little tolerance for US casualties, is logically going to search first for technological solutions that put fewer American and coalition lives at risk.

So How Do We Develop Successful Strategies in This Challenging Environment?

In the twenty-first century, strategic thinking remains as difficult as it is vital. Strategy remains a constant adaptation of what we call ends (or objectives), ways (the hows), and means (the tools) to shifting conditions in an environment in which passion, chance, uncertainty, friction, and ambiguity dominate. And to make it even more challenging, as Gen T. Michael Moseley, our chief of staff, points out—will the strategy work in the unknowable next test, where the enemy gets a vote?[7]

Strategy is more than merely applying resources to solve problems, and it is more than applying kinetic or industrial-age solutions. The science of war is challenging enough with today's rapidly evolving technologies, exponential production of knowledge, and computing power. It is far more complex than our current vernacular of a five-paragraph field order, a commander's estimate, military decision-making process (MDMP),[8] or "strategy to task" applied in a Jominian[9] fashion can cope with.[10]

The military strategists' success or failure lies more in their grasp of the art of war. By understanding the dynamics of context in an information age, they are better able to identify the problem, understand their limited means, and apply them in flexible ways compatible and integrated within an effective overall DIME strategy at acceptable risk. They are aware of how politicians and policy impose limits on ways and means and how they ultimately affect achievable objectives. They realize operational, tactical, coalition, and legal realities may also limit options.

As General Moseley noted, the essence of strategic effectiveness is the ability to understand the fog of war and the cunning adversary, and to connect seemingly disparate activities, issues, and areas of concern into a coherent whole. Developing and implementing a coherent strategy require "imagination, creativity, and sound logic."[11] But foremost, strategic success requires an understanding of the human and social activity called war and of the probabilities of human behavior in conflict. Know your enemy! The nonlinear battle of wills between personalities, cultures, ideologies, societies, and psychologies dominate the epicenters of war's influence—and all play out under the gaze of a less than fully informed media and public opinion.[12]

How Do We Then Develop Twenty-First-Century Strategists?

Air strategists make time to study war—in the classroom, seminar, or conference—but mostly in a professional life devoted to self-study and reflection. They study military and world histories and cultures. They analyze case studies to confront decision-making dilemmas in various contexts. They track technologies and the availability, relevancy, and possible integration of evolving technologies of all players that will define their means. They read biographies to capture the wisdom of those who may have faced similar challenges. They understand their own political, social, and military systems. They seek to understand those of their allies with study and networking. They understand that a "wide variety of factors—politics, economics, geography, history, culture, religion, ideology, [and propaganda]—influence strategic behavior in subtle but important ways."[13] They continuously train, rehearse, exercise, study, and network with peers, mentors, and partners. They write to clarify and sharpen their critical thinking and communicative skills. Most importantly, they listen

and learn. Building experience and informing intuition with an appreciation of contextual dynamics is the endless labor of decades.

But this lifetime of intellectual and professional development must first produce, as Clausewitz observed, an understanding of the nature of the war one is in, to avoid mistaking it for what it is not. And then, with great foresight, the successful strategist conveys a clear vision of an achievable end state,[14] clearly communicates a path to its achievement, and maintains a flexibility to adapt if it is not working within the boundaries of acceptable risk and cost.

Successful strategies require means, or tools, and organizational approaches that are relevant and effective to the task at hand or on the near horizon. Some have fashionably called that analysis an understanding of the state of "military transformation."[15] The air strategist must understand the capabilities and limitations of the state of military transformation within which one operates.[16] Transformation requires material, organizational, and human investment. Let's look first at material investment.

Many Americans, especially those whose personal lives have not been affected by war, take peace and security for granted. But as Joseph Nye Jr. of Harvard University put it, "Ignoring the role of military security in an era of economic and information growth is like forgetting the importance of oxygen to our breathing."[17] In our current threat and security environment, we cannot afford to short ourselves on oxygen—even if the sticker price for defense intimidates us.

The US military, and especially the US Air Force, has been on a procurement holiday for the past several decades. We cannot overemphasize our need now to recapitalize our force, especially given that other nations have produced several generations of aircraft, surface-to-air missile systems, and counterspace systems that in some cases rival or exceed our capabilities. The average age of our aircraft is more than 24 years old—the oldest force in our history. The cost to maintain this old fleet has increased dramatically. We have some aircraft like the venerable B-52 that is nearly 50 years old, and the way we are going, the last B-52 pilot's mother has yet to be born. To put that age in perspective, our B-52 bombers and KC-135 air refueling tankers are analogous to flying biplanes like the Sopwith Camel in the Vietnam War. Extended combat operations are wearing out our aircraft at five times the normal rate of aging; maintenance costs have risen 87 percent in the last decade, exacerbated by rising fuel costs, contractor fees, spare parts, utilities costs, and by costs associated with

reopening assembly lines. While Americans may not want our forces to go to a fight with old equipment, our air strategists must deal with these realities and with the associated risks. However, our strategists also recognize that to be successful in our material transformation, we must have first-rate technology that is networked, survivable, and can function at longer ranges, in more versatile ways, and at much greater speeds.

Yes, first-rate technology is expensive. But given the threats and consequences we face today and into tomorrow, can the United States afford not to recapitalize our aging fleet? To put this last point in historical perspective, we spent 37 percent of our gross domestic product on defense in WWII, 12 percent in the Korean War, 9 percent in the Vietnam War, and 6 percent in the Reagan era; in today's global war on terror we are spending under 4 percent on defense.[18] The successful air strategist needs some high-suit cards.

In addition to making technology a top priority, organizational design is an important ingredient of transformation. The Air Force's overarching organizational construct is to improve America's capabilities for Global Vigilance, Global Reach, and Global Power. Though not cheap, it is increasingly vital in a global world. Said another way, we need to know what is going on, to get there quickly, and to produce desired effects . . . anywhere, anytime, anyplace if we are to remain a superpower. In twenty-first-century warfare, unless we have superiority in air, space, and cyberspace, we cannot expect to win on the surface of the earth. Other than perhaps a Scud attack in Operation Desert Storm, the fact that no American Soldier or Marine has been attacked from the air during hostilities since April 1953 is a matter of great pride and hard work. It doesn't just happen; it is made to happen with considerable hard work and, yes, substantial amounts of taxpayer money. But as our capabilities erode with aging force structure, we run higher risks in maintaining superiority in these core missions. A key strategic problem for air strategists today is that they must comprehend evolving capabilities and limitations within our core mission areas.

First and foremost, the key enabler of Global Vigilance provides timely, relevant, actionable intelligence that allows us to intervene in an effective manner. Global Vigilance provides prescient intelligence on developing crises. The air strategist understands that persistent, relevant vigilance empowers our leaders with improved knowledge and better opportunities to deter and engage the enemy or defuse potential hostile situations. With this greater situational awareness comes a greater confidence and ability

to execute operations. This globally responsive ISR and communicative capability can provide knowledge that is of great interest to joint and coalition partners. Done right, it can enhance cooperation between services and nations and help build the trust that fosters unity of effort and ultimately facilitates collective security.

While identifying potential global security problems is the first step, the next requirement is getting there to do something about it. Global Reach allows us to move the required mix of combat forces and capabilities anywhere in the world in a matter of hours to days. To the air strategist, global mobility exploits the vertical dimension above the earth, giving air and space forces advantages to operate at high speeds and long distances unimpeded by terrain. We must be able to react rapidly and sustain joint war fighters across the full spectrum of operations, with little or no warning. Our global mobility forces do not know where the next deployment will be, so we must continue to work basing and overflight rights in peacetime while continuing to build partnerships, especially in strategic locations.

Our final focus is on Global Power, which allows us to apply decisive force when and where it is needed. Whereas Global Reach is the ability to go places quickly, Global Power is what can be done once we arrive. Those who threaten peace should be on notice that they have no refuge. The air strategist must be able to hold any target at risk, anywhere at anytime. Survivable weapon systems that range, penetrate, and persist globally with a variety of kinetic and nonkinetic precision payloads are essential to deter and dissuade those who would threaten our national security. Global Power must also be able to neutralize undeterrable threats posed by rogue individuals and states or those who provide them sanctuary.

Finally, let's explore the final and most important element of military transformation—our people—focusing on our strategists, commanders, and decision makers who must lead this effort. Gen George Patton's admonition, "Wars may be fought with weapons, but they are won by men. It is the spirit of the men who follow and of the man who leads that gains the victory," still rings true.[19] Frankly, many, if not most, of our senior combat leaders are quite skilled in the art and science of conventional war. Most understand how to function in a joint environment, and they appreciate and optimize the cultural differences between the services. What they must learn, and therefore what we need to prioritize in our military training and education, is an understanding of the critical factors that

dominate the context in which they must operate. One might call this construct the "three-front war" of the twenty-first century.

The Three-Front War

The first front that modern strategists must understand is how to fight in a globalized world in an information age. In this world, masses of information are exchanged at the speed of light, most of it beyond the commander's control. A seemingly omnipresent media with a speed-to-the-market creed—a market in which ratings and influence often supersede a quest for truth—has dramatic effects on perceptions and politics and, as a consequence, on risk management. Every tactical decision potentially has a strategic impact. In addition, in a globalized world where economies and information systems are inexorably linked, there are severe constraints on targeting, even with precise and theoretically discriminate weapons. We do not spend sufficient institutional or reflective time educating and training our commanders and strategists to comprehend and function in this tasking environment.

The second front is the fight at home. American commanders and strategists must understand the nature and nuance of the American political system. There is an expectation of short, moral, precise, clean, and efficient wars, and that we will dominate conventional adversaries. This runs counter to both the nature of war and its history. Our Air Force has been in continuous conflict since 1990. A transparent, democratic superpower conducting wars and honoring certain values and processes under the scrutiny of world media and the Congress can be quite predictable. Our adversaries know this. They have studied our patterns and our systemic vulnerabilities. Our society at times is accustomed to resolving life's problems in 30 minutes (+/- commercials). Our hot wars in the past 30 years have lasted 90 days at most . . . a mere "sound byte" relative to the length and bloodletting of more distant conflicts. To boot, there have been limitations on interagency cooperation and what one might label "sufficient" commitment throughout government for a nation at war. Unfortunately, most of our government organizations do not have long-range, robust, detailed, proven planning methodologies like the military . . . nor for that matter, do they have the resources or commitment to build such an approach. Many have personal or institutional agendas and sometimes "leak" to advance those agendas. Our war colleges and self-study could spend more time developing an understanding of the realities and dynamics of the American political system.

Our Air Force should look strategically at how we develop our officers in the realities of other elements of our government and political system.

The final front for the twenty-first-century military commander and strategist is to learn to work within a coalition, with all its complexities, capabilities, and constraints. In a globalized world, no country can initiate autonomous military action and expect to succeed, at least in the long term. Since coalitions are prevalent, modern combat strategists and leaders must be astute to coalition military capabilities and limitations, and they must be sensitive to the strategic value of keeping the coalition together under stress. In addition, leaders must be sensitive to national, coalition, and global perceptions of coalition actions. To facilitate leadership development on this front, the Air Force, for example, has invested heavily in building air force-to-air force relationships. We have smartly beefed up our language, international affairs, and foreign area officer training programs. We established a Coalition and Irregular Warfare Center of Excellence at Nellis Air Force Base that works with coalition partners to help traditional airpower capabilities be more relevant for irregular warfare activities and also to help vulnerable nations bolster their air capabilities in the fight against terror. We are slowly improving on this front.

A Culture for the Three-Front War

To complement an emphasis on these three fronts which characterize the dominant contextual factors our strategists face, a relevant war-fighting culture is critical to strategic success. True military transformation and successful strategies for the twenty-first century require us, first and foremost, to think anew and to develop collaborative and flexible approaches to problems within changing circumstances. At the USAF Warfare Center, we have adopted a "winner's creed" we call the three "I's" that can have strategic institutional implications.

The first "I" is *innovation*. We structure our operational- and tactical-level training, testing, and tactics development efforts at the Warfare Center to breed disciplined innovation at the individual and unit levels. Innovation rests on foresight—the aptitude to discern current and emerging trends and anticipate their future potential. We present Airmen with problems they have never seen before and get them to think and act creatively as a team to forge solutions. We do this in our weapons school, our test community, and our aggressor force, to name a few. To develop strategic innovators, our Air Force must invest in a wide range of activities that also force Airmen to grapple with the

problems of the strategic environment—just as they are already accustomed to doing with the tactical and operational environments. Thinking "strategically" allows Airmen to better comprehend the critical environmentals within which they will have to solve problems. Such activities could include sponsored advanced degrees, strategic simulations or war games, periodic strategic conferences and roundtables, and sponsored strategic research initiatives. In short, the combination of preparation and practice will develop corps of Airmen who can provide innovative solutions to the kinds of problems the future will present.

This intellectual agility and adaptability is taken into our next "I," *integration*. We must know the technological limitations and capabilities of all of our weapons and communications systems, as well as those of our sister services and coalition partners. This, combined with an appreciation of how well these partners are trained, factors into our candidate tactics and strategies (ways and means) to fit within a relevant context. Integrating with each other seamlessly uncovers creative solutions through which the sum exceeds the individual parts. We demand integrated training, testing, and tactics at the Warfare Center—integration between air, space, cyberspace, the other services, and coalition partners. But strategic integration requires Airmen to think beyond the military context to anticipate the social, political, economic, and informational consequences of policy decisions. Because of the range and speed inherent in air, space, and cyberspace capabilities, air strategists must consult with members of other government and coalition agencies at the outset to ensure the plans they develop integrate with the capabilities and policies that those agencies can bring to bear.

The final "I" stands for *incorporation*. It institutionalizes a rapid learning process whereby assessments of what works and does not work are quickly validated and turned into our new playbook, truly making lessons "learned." We must be a learning organization that does not make the same mistake twice, an organization that rapidly propagates learning. Our 561st Joint Tactics Squadron conducts focused and timely conferences and has developed information technology processes that facilitate real-time collaboration and dissemination that have noticeably accelerated our institutional learning speed at tactical levels. For example, recurring weapons and tactics conferences, high-quality weapons school papers, and flash tactics bulletins have also made valuable contributions toward incorporating the most current and relevant ideas into our war-fighting playbooks. We have similar efforts emerging at the operational level. As a result of these initiatives and others, we are able to con-

struct a battle rhythm which influences out year funding, current and future policies, and doctrine at the most senior levels of the USAF. With "incorporation," our Air Force better empowers Airmen with the proper tools, processes, and culture to analyze, identify, and apply current and emerging capabilities within our air, space, and cyberspace domains. Institutionalizing the three "I's" at the tactical, operational, and strategic levels into our war-fighting culture also helps us adapt and transform to become a more agile, relevant, and resilient force. The air strategist benefits greatly from this process and culture.

The Imperative for Developing Air Strategists

There is a larger conclusion. The US military—particularly the Air Force—is evolving to become a more global force in an information age characterized by speed-of-light systems and weapons of mass consequence. As the people of the world become more connected, effective national security strategies must negotiate the realities within this complex, globalized context. We must be prepared to confront a wide range of potential opponents and to execute diverse missions ranging from humanitarian relief, to brutal, adaptive irregular war, to high-end-state warfare. Perhaps an even greater challenge involves developing ways and means to prevent crises or to provide constructive solutions that serve long-term strategic interests. To respond effectively to present and imposing future military challenges, we must make hard choices on limited resources about the use of force when developing strategy—that is, estimating strategic probabilities, risks, and consequences while trying to apply ways and means appropriately to achieve ends.

While our twenty-first-century air strategists must continue to read, listen, study, exercise, and analyze the evolving calculus of ends, ways, and means in assembling effective strategies to develop themselves and inform their perspectives and intuition, they would be well served to look closely at the three fronts of twenty-first-century warfare. Institutionalizing a warfighting culture that demands *innovation*, *integration*, and rapid *incorporation* facilitates the institutional agility required to adjust when our strategy falls short. Or as Sir Michael Howard wrote more than 30 years ago, "I am tempted indeed to declare dogmatically that whatever doctrine the Armed Forces are working on now, they have got it wrong. I am also tempted to declare that it does not matter that they have got it

wrong. What does matter is their capacity to get it right quickly when the moment arrives."[20] That capacity to get it right quickly that Sir Michael described does not come by accident; it comes only with focused, lifetime professional preparation that produces a corps of strategic thinkers.

Today, the tide of constrained resources against a growing series of threats is against us, and we must compensate with modern equipment and modern strategists, especially for a service that contributes Global Vigilance, Global Reach, and Global Power for our combined force. With our increasing national dependence on the use of space, cyberspace, and air and sea lanes for our economic and social well-being, we have uncovered new vulnerabilities. Unfortunately, we may be only one technology and one day away from losing superiority in one or more of those critical domains. Our nation's Air Force is responsible for maintaining air, space, and cyberspace superiority. Investing in both the material and intellectual capital for its success is a wise choice—perhaps the only choice if we are to maintain our security in the future. SSQ

Notes

1. For a timely analysis of the 2006 Israel-Hezbollah War, see William M. Arkin, "Divine Victory for Whom? Airpower in the 2006 Israel-Hezbollah War," *Strategic Studies Quarterly* (*SSQ*) 1, no. 2 (Winter 2007): 98–141.

2. T. Michael Moseley, "Airmen and the Art of Strategy," *SSQ* 1, no. 1 (Fall 2007): 14. Current and potential adversaries have declared the electromagnetic spectrum a fifth-dimension battlespace, and yes, we are experiencing hundreds of attacks on our nets each year that are increasing in their sophistication. Last spring, Estonia experienced a massive and crippling cyber attack from entities within another state.

3. Gabriel Weimann, *Terror on the Internet: The New Arena, the New Challenges* (Washington, DC: US Institute of Peace Press, 2006).

4. National Intelligence Council (NIC), *Mapping the Global Future: Report of the National Intelligence Council's 2020 Project* (Washington, DC: Government Printing Office, December 2004), 10. The NIC defines *globalization* as the "growing interconnectedness reflected in the expanded flows of information, technology, capital, goods, services, and people throughout the world" (ibid.).

5. Thucydides, *History of the Peloponnesian War*, mentions that we go to war for either, or a combination of, "fear, honor, and interest." See Robert B. Strassler, ed., *The Landmark Thucydides: A Comprehensive Guide to the Peloponnesian War* (New York: The Free Press, 1998).

6. DIME infers a holistic integration of all the instruments of national power.

7. Moseley, "Airmen and the Art of Strategy," 9.

8. The MDMP is the US Army's methodical planning process.

9. Antoine-Henri Jomini, nineteenth-century Swiss military theorist who generally professed that following the correct doctrine and procedure would lead to victory. See Jomini, *The Art of War* (1838; repr., Novato, CA: Presidio Press, 1992), 271, 325.

10. Gabriel Marcella, "The Strategy of Teaching Strategy in the 21st Century," *Of Interest* (Carlisle Barracks, PA: Strategic Studies Institute, Army War College, 8 November 2007), 2, http://www.strategicstudiesinstitute.army.mil/pdffiles/of-interest-6.pdf.

11. Moseley, "Airmen and the Art of Strategy," 10.

12. Marcella, "Strategy of Teaching Strategy," 2.

13. Moseley, "Airmen and the Art of Strategy," 10.

14. Ibid., 11.

15. DoD, Office of Force Transformation, *Military Transformation: A Strategic Approach* (Washington, DC: Office of the Secretary of Defense, Fall 2003), http://www.oft.osd.mil/library/library_files/document_297_MT_StrategyDoc1.pdf.

16. See Martin van Creveld, *The Changing Face of War: Lessons of Combat from the Marne to Iraq* (New York: Presidio Press, 2006); and Gen Rupert Smith, *The Utility of Force: The Art of War in the Modern World* (New York: Alfred A. Knopf, 2007).

17. Thomas L. Friedman, *The Lexus and the Olive Tree: Understanding Globalization* (New York: Random House, 2000), 443.

18. Office of Management and Budget, *Budget of the United States Government, Fiscal Year 2008* (Washington, DC: Government Printing Office), 118–25.

19. George S. Patton, "Mechanized Forces: A Lecture," *Cavalry Journal* 42 (September–October 1933): 5–8.

20. Michael Howard, "Military Science in an Age of Peace," *RUSI: Journal of the Royal United Services Institute for Defence Studies* 119 (March 1974): 7.

Space Weaponization and US-China Relations

Kenneth S. Blazejewski

Introduction

The issues surrounding the weaponization of outer space present difficult security and diplomatic challenges to the United States in its relationship with foreign states. Several features of space weaponization account for these difficulties. First, many space technologies have dual-use capacity, making it difficult for states to distinguish between defensive and offensive preparations or conventional and space weapons.[1] Second, some defense analysts argue that space weapons are inherently better suited to offensive than defensive warfare since they are able to launch powerful attacks quickly but are vulnerable to attack.[2] Third, due to insufficient situational awareness in space and poor "forensic" ability, the causes of satellite failures can be unclear, creating the potential for both anonymous attacks and groundless accusations of antisatellite (ASAT) attacks.[3] Finally, as in many areas of foreign policy, states often send mixed signals regarding their true intentions in space.

In considering the costs and benefits of space weaponization, the United States must consider the effects it will have on its security relationship with foreign states. The United States should pay particular attention to the effect on relations with China, a potential future superpower with nuclear, intercontinental ballistic missile (ICBM), and ASAT capability, along with growing space programs.

This article explores the range of possible interpretations of US policy and Chinese policy on space weaponization. I argue that although the United States cannot have full certainty about China's space weapons program, it should proceed against the background of certain basic facts about China's position. First, I argue that if the United States proceeds

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with space weaponization, China will respond with some form of its own military buildup. The extent of such a response is not certain, but a new arms race revolving around space warfare is not unthinkable. Second, China has already developed the means to attack some US satellites, and there is no guarantee that China does not seek to develop the means to launch a more robust space weapons or ASAT program.

Members of Congress and the Department of Defense have responded to China's increased space capacity and its January 2007 ASAT test by calling for renewed focus on US space policy and defense. Last fall, Cong. Terry Everett, the Ranking Republican member of the Strategic Forces Subcommittee of the House Armed Services Committee, in an article previously published in this journal entitled "Arguing for a Comprehensive Space Protection Strategy," referred to China's ASAT test as a "clear wake-up call for the Administration, Congress, and the American people."[4] I agree with the congressman that China's actions require a clear response from the United States. This response must include some of the unilateral defensive actions that the congressman calls for, including the development of a comprehensive space protection strategy and improvement of space situational awareness. However, unilateral defensive actions must not come at the cost of multilateral diplomatic progress.

I argue that the United States should take a proactive role in developing international rules for the military use of outer space. The United States can use its significant international influence to shape rules that preserve its national interests, such as deploying a limited ballistic missile defense (BMD) system but placing a ban on the testing of ASAT weapons. To maximize US long-term security, however, I would argue that the United States not deploy space weapons as part of a multilayered BMD shield or otherwise. Space weapons would not contribute to US security in the way that many proponents suggest. Ultimately, space weapons deployment is likely to expose US satellites to greater threat by encouraging foreign states to develop more advanced ASAT technology and expedite nuclear proliferation. Even when considered in isolation, the decision to forgo space weaponization is a wise one; when considered within the larger context of arms control negotiations, it clearly presents an opportunity to advance US long-term security. The United States should concede to negotiate on space weaponization with China in return for Chinese cooperation in other more critical areas of counterproliferation, such as the Fissile Material Cut-Off Treaty (FMCT) and the Proliferation Security

Initiative (PSI). Finally, the United States should continue to push for increased transparency in China's military and space programs.

The US Position on Space Weaponization

US policy on space weaponization is contradictory and unclear. The United States formally disclaims any intention to weaponize outer space in discussions with foreign states, yet multiple US policy defense documents call for just such a policy. Any analyst of US foreign policy would likely conclude that the United States seeks, at least, to keep its options open on the weaponization of outer space. A prudent military adversary, analyzing that same information, would be wise to prepare for eventual US weaponization of outer space.

One important source of insight into the US position on space weaponization comes from US official statements at the UN Conference on Disarmament (CD), the official international body for the negotiation of disarmament agreements. Most members of the CD have long supported the commencement of negotiations on a treaty on the prevention of an arms race in outer space (PAROS). Although the United States has consistently opposed a PAROS agreement, it actively assures other states that it does not intend to weaponize space. The United States justifies its opposition to a PAROS agreement with two arguments. First, the United States contends that negotiating an agreement on PAROS would be superfluous and wasteful since there is currently no space-weapon problem. The ambassador to the CD has explained, "There is no arms race in outer space. Thus, there is no—repeat, no—problem in outer space for arms control to solve."[5] Second, the United States argues that an inability to define *space weapon* precludes the negotiation of an agreement on PAROS.[6] Specifically, the United States argues that any definition of space weapon is likely to extend to "practical and important uses of space-related systems" such as satellites or the space shuttle.[7] Despite its opposition to an agreement governing PAROS, the US representative at the CD has consistently argued that current US policy "does not advocate, nor direct the development or deployment of weapons in space."[8]

A prudent reading of these statements suggests that the United States is keeping its options open in space. By refusing to support a binding international agreement on PAROS, the United States rejects any limit on its future ability to deploy space weapons. Statements of assurances suggest

that if the United States ultimately has plans for space weaponization, those plans are unlikely to be executed in the near future.

Recent US actions and other internal statements, however, paint a much more aggressive picture of US plans for the weaponization of outer space. In 2001, a high-level commission headed by Donald Rumsfeld and charged with examining the future of US space security concluded that to avoid a "Space Pearl Harbor" the "U.S. government should vigorously pursue the capabilities called for in the National Space Policy to ensure that the President will have the option to deploy weapons in space to deter threats to, and, if necessary, defend against attacks on U.S. interests."[9] In addition, the commission stated that since space warfare is a "virtual certainty," the "U.S. must develop the means both to deter and to defend against hostile acts in and from space."[10] The commission called for improvements in "defense in space" and "power projection in, from and through space."[11] Before the commission concluded its work, Donald Rumsfeld assumed the post of secretary of defense. In 2006, President Bush issued a new US National Space Policy that emphasized the US determination to remain free of restraint in outer space. "The United States will oppose the development of new legal regimes or other restrictions that seek to prohibit or limit U.S. access to or use of space. Proposed arms control agreements or restrictions must not impair the rights of the United States to conduct research, development, testing, and operations or other activities in space for U.S. national interests."[12] In 2004, the Air Force published a paper called *Counterspace Operations* that begins with the assertion that "counterspace operations are critical to success in modern warfare."[13] The document goes on to explore the sorts of actions that would be included in a US offensive counterspace operation, including possible preemptive attacks on satellites, communication links, and surveillance and reconnaissance systems.

In addition to these policy recommendations and government statements, the June 2002 unilateral decision by the Bush administration to pull out of the 1972 Antiballistic Missile (ABM) Treaty suggests that the United States is taking the first steps to achieve the goals laid out by the Rumsfeld Commission. The ABM Treaty banned the placement of missile defense components and weapons in space. ABM abrogation is consistent with a desire to remove restrictions on developing a BMD system as well as placing weapons in space for BMD or other purposes. The Bush administration's wholesale rejection of the treaty, rather than a more dip-

lomatic and limited renegotiation of its bilateral obligations, suggests that it is not interested in using legal constraints to assure its foreign partners that it does not plan to deploy space weapons. This position is in keeping with the Bush administration's aversion to arms control treaties, but it also reflects a preference for unfettered use of outer space.

These statements and actions do not, of course, establish that the United States is planning to launch weapons into outer space. Foreign policy making is an unsightly process with many competing interests at stake. The fact that one federal department, such as the Air Force, argues for the weaponization of space, does not mean that such weaponization will occur. But this is beside the point. Regardless of the ultimate effect of these statements on US policy in space, their impact on foreign audiences can be stronger. Foreign countries seeking to decipher US behavior can only be further persuaded that the United States plans to weaponize outer space.[14] Chinese officials, for instance, have taken note of each of the statements described above and confidently concluded that the United States seeks to control space.[15]

The View from Beijing

No state is more keenly interested in US policy towards outer space than China. To avoid unnecessary conflict, the United States should pay close attention to the implications of space weaponization for US-China relations. Unfortunately, much like the United States, China's behavior and stated policy do not produce a clear picture of its true intentions in outer space.

Officially, China adamantly opposes the weaponization of outer space. At the CD, China spearheads the quest for an agreement on PAROS. Partnering with Russia, China calls for confidence-building measures in outer space, dialogue on appropriate actions in outer space, and, ultimately, the negotiation of an international treaty designed to prevent an arms race in outer space. However, China's recent ASAT test creates doubts about its sincerity in seeking to limit the weaponization of space. On 11 January 2007, China launched a mid-range ballistic missile and destroyed an outdated Chinese weather satellite in low Earth orbit (LEO). If combined with a larger booster, such a weapon could reach satellites in higher orbits.[16] Many states at the CD noted the obvious tension between China's official position on PAROS and its ASAT test. China stated simply that it continued to support an agreement on PAROS.

China's contradictory actions and statements provide some support for many interpretations and yet are wholly consistent with none. I offer four possible interpretations of China's behavior towards the weaponization of space.

One interpretation is that China seeks only to maintain its defensive military position vis-à-vis the United States. Although long a member of the nuclear club, China has never sought to match the United States or Russia in nuclear military might. The best estimates of China's nuclear arsenal are that China has roughly 80 operationally deployed nuclear warheads[17] and less than 40 liquid-fueled, silo-based ICBMs.[18] According to this view, China's "minimalist" nuclear program reflects the Chinese conception of nuclear deterrence as insensitive to variations in the relative number of nuclear weapons.[19] China is more interested in directing state resources towards economic development, industrial growth, and conventional military modernization than in competing with the United States in nuclear or space weapon systems, and China's nuclear policy focuses on maintaining its deterrent capability.

On this account, China's primary concern with US space weaponization is its contribution to a US multilayered missile defense shield. Indeed, China's campaign for PAROS negotiation at the CD seems to intensify after each new development in United States BMD plans.[20] Although China could respond to a BMD shield with effective countermeasures,[21] future technological developments may permit the BMD system to vitiate China's nuclear deterrent.[22] In the case of a conflict over Taiwan, for example, a US space-based BMD system could prove very valuable to the United States. According to this view, if the United States decides to advance with such a BMD program, China will respond so as to maintain its nuclear deterrence. It will modernize its ICBM fleet (a program it has already initiated), develop further countermeasures to circumvent the BMD shield, and develop the means to launch multiple ASAT attacks. Ultimately, an arms race could ensue. This, however, would not be China's chosen outcome. Its development of space weapons is merely a counterstrategy to what it views as likely US space weaponization.[23] China would much prefer that the United States negotiate a PAROS agreement not to build the BMD shield.[24] If this were the case, China's January ASAT test would appear to be an attempt to get the United States to the negotiating table. By launching the ASAT, China sought to put the United States on notice that any attempt to weaponize outer space would lead to this mutually undesirable path.

A second interpretation, not wholly inconsistent with the first, is that China is concerned that the United States seeks to deny Chinese use of outer space. As China continues down the path of economic development and technological advancement, it seeks to grow its outer space programs. China seeks to launch new satellites for commercial and military purposes.[25] For instance, China has plans to launch a GPS-like satellite system called Beidou-2. From 2006 to 2010, China plans to launch up to 100 satellites.[26] It also has an interest in developing a space science program much like NASA. Although the United States has officially stated that it supports the peaceful use of outer space by all space-faring nations, so-called US "space controllers" or "space hegemonists"[27] argue the United States should carefully police the use of space to assure that no country uses it in a manner inconsistent with its interests. In response to such a US policy, China seeks to deny the US denial of outer space.[28] One means of doing so would be through the ratification of an international treaty that precluded the United States from putting in place the instruments or means to control outer space. Since the diplomatic approach does not seem likely to produce any concrete results, China is moving forward with its ASAT program in order to hedge the risk of US space domination.

A third interpretation is that China's statements at the CD are nothing more than empty rhetoric and that its real intention is to develop the means to launch its own space weapons. China only seeks to pursue PAROS as a means of buying time to catch up to the United States in research and development of its space program. The Department of Defense views China's advances for negotiation with skepticism, noting "the traditional roles that stratagem and deception have played in Chinese statecraft."[29] The Rumsfeld Commission noted that "the Xinhua news agency reported that China's military is developing methods and strategies for defeating the U.S. military in a high-tech and space-based future war."[30] Many China experts outside the Pentagon share the Department of Defense's skepticism about China's willingness to negotiate arms control agreements.[31] In a report to the US-China Economic and Security Review Commission, Michael Pillsbury, a former defense official with expertise in Asian affairs, reported that no less than three Chinese colonels have advocated covert development and deployment of ASAT weapons to be used against the United States in a surprise attack.[32] In his Fall 2007 article, Congressman Everett seems to adopt this interpretation of China's ASAT test. "Apparently, this single test is part of a broader effort to mature their direct-ascent ASAT capability and to

develop a spectrum of counterspace capabilities."[33] Fueling these fears is the belief among some US defense experts that if China deploys space weapons before the United States, China will have gained a large, perhaps insurmountable advantage.[34]

Finally, a fourth interpretation is that China's seemingly contradictory actions are not the product of a single coherent policy but the result of "stovepiped bureaucracies" that do not sufficiently coordinate their actions and policies.[35] The appeal of this explanation is that it does not require a reconciliation of China's two positions. The negotiation of PAROS is the objective of the Ministry of Foreign Affairs, and the development of ASAT weapons is the objective of the People's Liberation Army (PLA), which conducted the January ASAT test.[36] Insufficient policy integration, information sharing, and leadership have allowed these two objectives to develop simultaneously. If true, this interpretation would raise serious questions about China's ability to develop a coherent foreign policy necessary to building a working relationship with the United States.

Although each of these four interpretations of China's policy on space weaponization diverges from the others, each is largely consistent with China's foreign policy behavior. Each has been adopted and vigorously argued by its own camp of China watchers. Despite the uncertainty, however, two conclusions emerge from the above interpretations. The United States must adopt a foreign policy that is consistent with both of these conclusions.

First, if the United States proceeds with space weaponization China will respond by bolstering its own military capabilities.[37] China's response will seek to preserve the asymmetric threat it poses to US space assets and maintain its nuclear deterrent. Under each of the interpretations considered, China is not willing to allow the United States to build up its space weapons program unchallenged. In the least, China would develop additional ASAT weapons to which the United States would seek to develop effective countermeasures.[38] Alternatively or in addition, China could invest in more ICBMs and nuclear warheads,[39] acquiring the capacity to overwhelm a BMD shield. An option less likely in the near future, China could counter US space weaponization by deploying its own space weapons. Other potential Chinese responses include adopting a "launch on warning" policy or abandoning its no-first-use pledge.[40] Each of these strategies would seek to counter the effectiveness of US space weapons. The United States, of course, could always respond to China's response, but such tit-for-tat policy making risks devolving into an arms race. Chinese officials claim

that an arms race would "likely emerge" unless a negotiated solution can be reached on PAROS.[41] It is noteworthy, however, that under at least two interpretations, this is not China's preferred outcome. Under the first and second interpretations, China will only proceed with further developing ASAT technology and acquiring additional weapons if it cannot be assured that the United States does not plan to weaponize outer space.

Second, China has developed the means to attack some US satellites, and there is no guarantee that China does not ultimately seek to develop a robust space weapons program. China's ASAT test demonstrates that the Chinese have been working assiduously at developing their space weapons program. Although China made a decision in the early 1990s to focus its space resources on civilian programs, an annual official budget of $2.5 billion for space programs and a growing number of dual-use technology programs suggest that China's military space capacity is growing.[42] For instance, China has long conducted research on the development of beam weapons that can be incorporated into ASAT weapons systems.[43] China is known to have tested high-power microwave weapons for jamming satellite communication.[44] If China is indeed pursuing a full-blown space weapons program, a space arms race may be inevitable despite a US decision not to launch the first space weapons program.

How Should the United States Proceed?

The United States must design a foreign policy response that pursues US interests and is able to respond to each of the four possible Chinese positions on space weaponization. As described in its foreign policy statements and studies, the United States has three potential interests regarding space weaponization: protecting US space assets, ballistic missile defense, and, finally, space control and force projection.

First, as the world's most technologically advanced country, the United States owns a highly disproportionate share of the world's space assets and satellites. These satellites play a vital role in US economic activity and military operations.[45] Foreign states have certainly taken note. "The political, economic, and military value of space systems makes them attractive targets for state and non-state actors hostile to the United States and its interests."[46] Unfortunately, satellites also make relatively easy targets for foreign antagonists. Satellites move in predictable patterns, cannot remain over friendly territory, and are easily located by other states.[47] While most

commercial satellites are in geosynchronous Earth orbit, beyond the reach of existing Chinese ASAT weapons, China could reach US satellites in LEO with its current basic ballistic missile technology. In the case of a limited US-China conflict, perhaps over Taiwan, US military satellites, most of which orbit in LEO, would make for a tempting target. Strategic elimination of US military satellites could effectively blind US forces. China might consider such a limited attack especially attractive since it would be unlikely to incite a full-scale nuclear response.

Second, US weaponization of outer space cannot be fully analyzed without considering the space requirements of a ballistic missile defense system. Of the many possible future BMD systems, most envision some amount of space components. A more robust BMD system would require space interceptors,[48] such as space-based lasers (SBL). Although boost-phase interception may be possible from ground-based BMD systems, most boost-phase models rely on space-based weapons.

Just as with the larger discussion of space weaponization, US policy on BMD is not entirely clear. In seeking to assuage the concerns of Russia and China, the United States has stated that it only plans to deploy a limited BMD shield directed at so-called rogue states. Yet some officials in the Bush administration have clearly demonstrated an interest in developing a more robust, multilayered BMD shield that can protect against attacks from stronger military powers.[49] US withdrawal from the ABM Treaty suggests that these views are influential in shaping its policy.

The final argument for the placement of weapons in space is the US ability to secure control of outer space, which many military planners consider to be the inevitable future theater of military conflict and the ultimate military high ground.[50] Control of outer space would both permit the United States to project power from space (either offensive or defensive) and deny adversaries the ability to do the same. Space-based weapons could provide some clear advantages in case of military conflict. For instance, SBLs could greatly reduce the response time of the US military to certain kinds of terrestrial threats. While a ballistic missile in the United States can take up to 45 minutes to reach its target, SBLs can destroy targets moments after the decision is made to attack.

Recommendations for US Policy

To determine the optimal policy, the United States must decide which of these three potential justifications for space weaponization provides

benefits in excess of costs. In making this determination, the United States should consider not only the immediate consequences of its actions but also the way in which its behavior will influence Chinese interests and shape Chinese policies. It must eschew myopic policy recommendations and consider the long-term reactions and realignments that US policy is likely to incite. We do little service to the long-term security of the United States by considering our defensive and offensive space options in the context of simplified hypotheticals presented by some advocates of space weaponization. Would we hesitate to use space-based defensive weapons to intercept an incoming ballistic missile armed with a nuclear payload? The answer is as obvious as it is unhelpful. The more difficult question is, what risks do we run in deploying such a space-based interceptor in the first place? How would such a deployment affect the larger strategic context in which the United States operates? In considering these questions, the United States must be wary of policies that provide short-term military advantages at the cost of long-term national security.

In light of the uncertainty surrounding Chinese policy on space weaponization, I would recommend that the United States focus on what I consider the two core observations of Chinese space weapons policy. One, China will likely react to space weaponization with its own military buildup. Two, China may ultimately plan to pursue an aggressive space weaponization or ASAT program. Against this background, I offer some recommendations for US policy.

The US refusal to engage in discussions on the weaponization of outer space imposes two significant costs. First, it increases Chinese uncertainty and suspicion, leading China to assume its worst-case scenario about US space weaponization. Second, it prevents the international community from developing new rules and norms in areas such as advancing situational awareness, coordinating launches, and deterring the further development and proliferation of ASAT weapons that could benefit US space assets. There is broad consensus that the United States can no longer afford to remain silent in the international debate on the weaponization of outer space. The Rumsfeld Commission, the US-China Commission,[51] and many space-arms-control advocates all recommend greater US participation in setting rules for the use of outer space beyond the existing legal framework.

For years China has pressured the United States to negotiate a new international agreement on space and space weaponization. If the United States now accepts this invitation, it may find that it has substantial leverage in

determining the parameters of the discussion. The United States should use this leverage to assure that the final agreement reflects its interests in space. One issue for the United States to consider is whether the CD is the best forum to negotiate rules on space. Admittedly, most member states recognize the CD as "the single multilateral disarmament negotiating forum" and as such the appropriate forum for the discussion of space weaponization. But agreeing to PAROS discussions at the CD may place the United States in a defensive position. For years, China and other states have used the CD as a forum to lambaste the US position on space weaponization. At the CD, the United States risks appearing like a reluctant defendant facing a hung jury. More importantly, the current formulation of the discussion at the CD as "prevention of an arms race in outer space"—such as through the advancement of a limited BMD system—may subtly shape discussions against US interests. Preventing an arms race does not fully encompass the interests at stake in space. International discussions on space should consider not only preventing destabilizing actions in space but encouraging stabilizing actions in space as well. Moreover, a new agreement on space might address a wider array of issues than just the "space arms race," including civilian space use and space debris.

The United States might limit the discussion at the CD to simply supporting the negotiation of an agreement on space weaponization in another forum. One obvious alternative forum is the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), a UN representative body with a mandate to consider space law issues. Alternatively, the United States might consider whether to forgo the universal consensus of the UN for a closed multilateral agreement with China and Russia and perhaps a select group of states with active space programs, potentially including Canada, India, Israel, Japan, Saudi Arabia, or the states of the European Space Agency. The scope of the negotiation will affect the substance. For instance, space weaponization may be effectively addressed in an agreement between the United States, China, and Russia, but an agreement that sought to include new rules curbing the creation of space debris would be best addressed within a larger group of states.

In the following discussion, I describe what I view as the optimal US position on the most pressing space weaponization issues. The discussion is divided into three categories: space-based weapons, ballistic missile defense, and ground-based ASAT weapons.

Space-Based Weapons

I recommend that the United States accept a commitment to forgo placement of weapons in outer space. The costs of space weaponization simply outweigh the benefits. Above, I argue that China would respond to US space weaponization with some level of military buildup. In the least, this response would include the deployment of a more robust ASAT system capable of attacking and potentially eliminating space weapons.[52] After all, space weapons, like military satellites, make for vulnerable military targets.[53] The use of space-based weapons in a conflict must be discounted by the likelihood that they would be eliminated by Chinese ASAT attack. More importantly, increased ASAT deployment would have the counterproductive effect of exposing US satellites to greater threat. Aside from ASAT issues, Chinese response to US space weaponization would include an increase in China's ICBM fleet and nuclear arsenal. Vertical proliferation cannot be in the interests of the United States, if only for the increased peacetime risks of accidental launch or the terrorist risk associated with increased availability of weapons technology and components. Finally, the United States should not discount the possibility, often cited by opponents of space weaponization, that the deployment of US space weapons would instigate a space arms race.

These costs must be weighed against the benefits of space weapons championed by advocates of space weaponization. Despite their relatively open exposure to ASAT attack, some space weapons do provide significant military capability. One question, however, is whether the military benefit of space weapons, for example a long rod penetrator, is much greater than the benefit provided by terrestrial or Air Force weapons.

A second reason for US commitment not to place weapons in space is the negotiating leverage such a concession would provide. Of course, such leverage cannot be taken for granted. Rather, agreement not to weaponize outer space could be loosely conditional on making progress in other areas of US security. There are at least three areas where the United States could expect to gain concessions from China in return for a commitment not to weaponize space. First, China's participation at the CD strongly suggests that it might be willing to begin negotiations on an FMCT, a top security priority of successive US governments, if the United States agrees to negotiate on space weapons.[54] Since China's commitment to the FMCT can facilitate the FMCT commitments of India and Pakistan, its participation is critical.[55] Second, the United States can demand greater support from China on the Proliferation Security Initiative. The PSI, which seeks to

prevent illicit sea and air transport of fissile material, has been identified by the Bush administration as a key program in reducing the possibility of acquisition of nuclear weapons by a terrorist organization. To date, China's muted opposition to the PSI stands as one of the greatest impediments to a fuller development of the initiative.[56] Chinese cooperation could be vital to this program's success. Third, the United States should demand greater transparency in Chinese military planning, especially with regard to ASAT and space-focused programs. Such transparency, long sought by US defense officials, would reduce the likelihood of potential conflicts over speculative intelligence and give the United States greater insight into how military decisions are made (and whether China indeed suffers from a stovepiped bureaucracy). I argue that progress in each of these three areas would represent a greater security gain than proceeding with the weaponization of space. If the United States is able to negotiate a quid pro quo in one or all of these areas in return for a commitment not to weaponize outer space, the agreement would represent a clear US net security gain.

A third reason for the United States to agree not to launch weapons into outer space is that such an agreement need not threaten two stated US interests—protection of satellites and the development of a limited BMD system. Before turning to each of these issues, it is necessary to note two potential problems with a decision to forgo space weaponization. First, as stated above, there is no guarantee that China does not plan to develop its own robust ASAT and space weapons programs regardless of US activity in this area. "Space racers" doubt that a US commitment not to place weapons in space will influence China's policy on space weaponization. Ultimately, cheating is a risk that countries run whenever they agree to be bound by a shared international agreement. However, certain factors significantly reduce this risk. First, while the secret development of space weapons technology might be possible, any effort to deploy or test space weapons will be clearly visible to the international community.[57] Without the capacity to test, any space weapons program will be stifled at an early stage of development. Second, there is little reason to think that in the foreseeable future the technological capacity of the United States would fall far behind that of any state planning to launch space weapons. A commitment not to deploy weapons does not mean that all research and development must cease immediately. Once it becomes clear that a state is preparing to launch space weapons, the United States could respond by executing its own space weapons contingency plan. Third, as stated above, space weapons are relatively easy targets for ASAT attack, a feature that can work in the interests of the United States if others deploy first.

Fourth, a universal ban on space weapons would engender a normative framework that would justify a swift reaction by the United States, such as the deployment of its own space weapons or ASAT attack if another country violated the ban first. Finally, if the United States is able to negotiate for greater transparency in Chinese military planning, as suggested above, it would reduce the possibility of a surprise Chinese launch.

A second potential criticism of the recommendation to forgo space weapons is the common assertion that such a commitment requires a workable definition of *space weapons*. Admittedly, defining space weapons without encompassing other space assets, such as satellites capable of inflicting physical damage on other satellites, presents a challenge. However, the impossibility of agreeing on a definition is likely inversely proportional to the political will to reach such a definition. Once the United States and China have determined to reach a space weapons ban, they should be able to design reasonable criteria to distinguish between space weapons and ordinary space assets. One possible approach would be to abandon the idea of a general definition altogether and agree on a definitive positive or negative list of space objects that would or would not fall within a space weapons ban. A positive list would describe the space systems that are specifically included within a prohibition. Alternatively, a negative list would include those that are specifically not affected by the prohibition. Each approach presents its own challenges. A positive list would require that the United States have sufficient information to describe the sorts of weapons China seeks to launch. A negative list would have the opposite effect: it would require the United States to reveal potentially sensitive details of its space assets to qualify for launch. Yet if the effect of each of these two approaches is to increase transparency about the sorts of assets that China and the United States have in space, it may only bolster stability between the two states.

Ballistic Missile Defense

I argue that an agreement on space weapons need not categorically prohibit United States deployment of a BMD system. A discussion of space weaponization should address BMD only to the extent that it is relevant to "space weaponization"; certain types of BMD are clearly not pertinent. For instance, the US Patriot Advanced Capability-3 (PAC-3) short-range missiles form a central component of US missile defense. But PAC-3, which lacks the ability to execute long-range interceptions, seems clearly beyond the scope of a discussion on space weaponization. On the other

hand, some BMD systems—such as those directed at weapons that enter orbit—do have space implications. In setting the limits of the discussion on space weaponization, the United States should suggest a clear distinction between BMD systems based on the location of the interceptor versus the location of the object being intercepted.[58] BMD systems with space-based interceptors would fall within the scope of the agreement. All other BMD systems would not be covered. Substantively, the United States could commit to not deploying space-based interceptors. Given the dual nature of many space weapons, such a commitment would increase the credibility of an international prohibition on space weapons.

As described above, China's opposition to a US ballistic missile defense shield emerges from its desire to maintain its nuclear deterrent capability vis-à-vis the United States. A US commitment not to launch space-based interceptors as part of a BMD shield would contribute to assuring China that the United States' BMD system is not directed at limiting its nuclear deterrence. "If the [BMD] system [the United States] decides on includes weapons in space . . . a cascade of negative repercussions will follow. . . . If, however, U.S. missile defenses are designed to counter proliferation only and do not include weapons in space, Chinese and Russian fears could be assuaged."[59] Hui Zhang, a prominent Chinese expert on nuclear weapons policy, states: "A space-based, boost-phase defense would be particularly threatening."[60] Admittedly, even a terrestrial BMD, combined with possible US nuclear primacy and first-strike capacity,[61] could pose a significant threat to China's capacity for nuclear retaliation—even accounting for failings in US intelligence on Chinese missile locations.[62] To deploy even a limited BMD shield, the United States may need to provide China (and Russia) with additional assurances to ease their concerns on BMD.[63] However, a ban on space weapons would only contribute to this effort.

Finally, I should emphasize that the US ability to remove the discussion of terrestrial BMD from the discussion on space weaponization does not mean that there are not other good reasons to question the value of even this limited form of BMD. Aside from foreign misgivings about a US ballistic missile defense shield, effective countermeasures and the increased reliance on cruise missiles[64] raise important questions about the advantages that the United States gains from BMD. Moreover, as I argue below, if the United States seeks to prohibit the testing of ASAT weapons, it may have to accept a prohibition on the testing of mid-course BMD systems as well.

Ground-Based Antisatellite Weapons

Proponents argue that space weapons could provide reliable protection for US satellites. Yet, as described above, to the extent that China responds to US space weapons deployment with the deployment of a more robust ASAT system, the security of US satellites actually decreases. When considered from this perspective, it would be wise for the United States to protect its space assets through a less antagonistic policy.

In addition, it is not clear that space weapons could provide effective defense for US satellites. Space weapons would be useless against a wide variety of assaults on satellites that may be within China's reach.[65] For instance, China could cut off communication between US military forces and US satellites by means of electronic jamming, blinding satellites through the use of laser technology, or hacking into a satellite signal. Most obviously, space weapons would also fail to deter conventional attacks on satellite ground communication stations. Such attacks on ground stations are easier to execute than a ground-to-space ASAT assault.[66]

The challenge for the United States is to defend its own satellites against a wide variety of potential threats without encouraging China to significantly step up its ASAT program. Various techniques and policies are capable of achieving this objective.[67] First, the United States could engage in the hardening and shielding of its satellites. Making satellites more resistant to laser attack, nuclear radiation, or hacking would contribute greatly to the defense of its satellite system. Similarly, the United States could equip satellites with the means to protect themselves from high-intensity laser beams or other harmful agents. Additionally, cheap decoy satellites could be deployed. The United States could also work to decrease dependence on individual satellites: creating redundancy by placing additional satellites in space can effectively limit the damage that any single attack can inflict.[68] Admittedly, many of these techniques are not without their drawbacks. For example, it might be difficult to hide satellites inside radar-reflecting balloons without impairing their own sensors and communications. Yet, increasing the research and resources directed towards this area might provide added passive satellite defenses.

Finally, even once the United States has implemented the strategies described above, it may seek to limit the further development of land-based ASAT weapons. Some opponents of space weapons have suggested that the United States propose a ban on the mere *development* of ASAT weapons.[69] Such a prohibition seems nearly impossible to verify. In addition, the bene-

fits of cheating would be unacceptably high: if the United States stops the development of ASAT weapons but China maintains a secret program, the advantage to China would be too great. Alternatively, however, a ban on *testing* ASAT kinetic-kill weapons, including near-miss trials, would be easier to verify. Verifying the testing of ASAT beam weapons presents more of a challenge,[70] and the United States may have to accept this aspect of the agreement as nonverifiable. However, ASAT beam weapons present other limitations (such as an inability to blind satellites beyond their direct line of sight) that may increase the potential benefits of other forms of passive defense (such as redundancy to assure that some minimum percentage of satellites is always out of sight of Chinese ASAT beam weapons).

The challenge of a ban on ASAT testing will be to distinguish ASAT systems from the terrestrial BMD systems that I have argued should not fall within the scope of an agreement on space weaponization. Hui Zhang is correct to note that BMD weapons generally have an inherent ASAT capability.[71] Zhang also notes that the Chinese would consider any system proscribing ASAT testing but permitting BMD testing as "discriminatory."[72] Yet, the United States will have to test BMD systems if it seeks to deploy a missile defense shield. One possible resolution would be to distinguish between mid-course BMD systems designed to intercept missiles in orbit, which are largely indistinguishable from ASAT systems, and BMD systems that intercept missiles in either boost or terminal phase, which target missiles closer to the Earth's surface. Such a distinction may be justified by the additional benefits that would result. For instance, mid-course missile interception—like ASAT assaults—creates space debris. However, boost-phase interception—which the United States may be able to conduct through ground-based BMD systems—and terminal-phase interception do not.[73] Given this trade-off, the United States faces two options. On the one hand, if the United States determines that a ban on ASAT weapons testing is worth forgoing the testing and deployment of mid-course missile defense systems, it can propose a flat ban on any weapons test that intercepts its target in orbit and creates space debris. On the other hand, if the United States determines that mid-course missile defense systems testing is too valuable, it may have to live with the continued testing of ASAT weapons and the further accumulation of space debris. Given the questionable utility of a BMD system, the unrestrained right to test boost-phase and terminal-phase BMD systems, and the negative consequence of space debris, I recommend that the United States accept a flat ban on weapons tests that target objects in orbit, including ASAT and mid-course BMD systems.

Finally, any agreement that limits the United States' ballistic missile defense options must account for the possibility that the missile technology of the true target states of its BMD, such as Iran and North Korea, might one day improve to the point of outstripping the negotiated limits on BMD. To avoid a future US abandonment of the agreement, as in the case of the US withdrawal from the ABM Treaty, any agreement on space weapons should incorporate some flexibility by recognizing the potential need for future negotiations and requiring ongoing dialogue on missile threats. If it becomes necessary for the United States to deploy a more robust BMD system, it might seek to defuse Chinese concerns by pursuing BMD as a more open and transparent initiative with discrete and limited opportunities for Chinese participation. Such an initiative may lay the groundwork for deeper forms of collaboration in the future. SSQ

Notes

1. For example, Mueller points out that "nuclear-tipped anti-ballistic missiles (and even short-range ballistic missiles) can potentially be employed as powerful ASAT weapons." Karl P. Mueller, "Totem and Taboo: Depolarizing the Space Weaponization Debate," *Astropolitics* 1, no. 1 (Summer 2003): 3–4.

2. Ibid., 7. They explain that space weapons are vulnerable "because they move predictably, cannot remain over friendly territory, and are difficult to conceal."

3. Michael P. Pillsbury, *An Assessment of China's Anti-Satellite and Space Warfare Programs, Policies and Doctrines* (Washington, DC: US-China Economic and Security Review Commission, 19 January 2007) [hereinafter "Pillsbury Report"], 4.

4. Terry Everett, "Arguing for a Comprehensive Space Protection Strategy," *Strategic Studies Quarterly* 1, no. 1 (Fall 2007): 21.

5. Statement by John Mohanco, deputy director, Office of Multilateral Nuclear and Security Affairs, US Department of State (UN Conference on Disarmament, Geneva, 13 June 2006), press release, US Mission to the United Nations in Geneva, http://www.usmission.ch/Press2006/0613USstatementattheCD.htm.

6. "For many years the U.S. engaged in [talks about banning space weapons] with the Soviet Union to no avail, largely because no one then, or now for that matter, could formulate an agreed definition of what is meant by 'space weapon.'" Statement by Amb. Christina Rocca, permanent representative of the United States of America to the UN Conference on Disarmament, "Prevention of an Arms Race in Outer Space" (UN Conference on Disarmament, Geneva, 13 February 2007), press release, US Mission to the United Nations in Geneva, http://geneva.usmission.gov/Press2007/0213PAROS.html.

7. "The United States [has] looked frequently at the possibility of banning anti-satellite weapons or other space-related weapons systems, but we always find that such a ban is impossible to define in a way that excludes practical and imported important uses of space-related systems. Many proponents . . . assume that it is easy to identify what is or is not a weapon in outer space. This certainly is not the case, as anything in outer space with the ability to alter its trajectory could be a weapon." Statement by Mr. John Mohanco, delegation of the United States of America, in *Final Record of the One Thousand and Twenty-fifth Plenary Meeting* (Geneva: Conference on

Disarmament, 13 June 2006), 21, http://disarmament.un.org/Library.nsf/a61ff5819c4381ee85256bc70068fa14/a911b376e1fda36b852571dc00579271/$FILE/cdpv1025.pdf.

8. Rocca, "Prevention of an Arms Race."

9. *Report of the Commission to Assess United States National Security Space Management and Organization, Executive Summary* (Washington, DC: Commission to Assess United States National Security Space Management and Organization, 11 January 2001) [hereinafter "Rumsfeld Commission Report"], 8 and 12.

10. Ibid., 10.

11. Ibid., 16.

12. Office of Science and Technology Policy, Executive Office of the President, The White House, National Security Presidential Directive (NSPD) 49, "U.S. National Space Policy," 31 August 2006, http://www.fas.org/irp/offdocs/nspd/space.html.

13. Air Force Doctrine Document 2-2.1, *Counterspace Operations*, 2 August 2004.

14. Michael Pillsbury argues that Chinese military analysts consistently misread the space weaponization debate in the United States, "fail[ing] to acknowledge the consistently successful struggle of the arms control-minded members of the US Congress to block funding for space weapons during the past decade or more." Pillsbury Report, 9.

15. Statement by Eric D. Hagt in "Chinese Military Modernization and Its Impact on the United States and the Asia-Pacific" (US-China Economic and Security Review Commission, Washington, DC, 30 March 2007), 5, http://www.cdi.org/PDFs/EricHagtCongressionalTestimony.pdf. Hui Zhang reports that the common perception among Chinese defense analysts is that the United States seeks to achieve space control. Hui Zhang, *Chinese Perspectives on Space Weapons*, Project on Reconsidering the Rules of Space (Cambridge, MA: American Academy of Arts and Sciences, January 2007), 32–33, http://www.amacad.org/hui3.pdf.

16. Hagt, "Chinese Military Modernization," 8.

17. Jeffrey G. Lewis, *The Minimum Means of Reprisal: China's Search for Security in the Nuclear Age* (Cambridge, MA: MIT Press: 2007), 25–29. Lewis presents what seems to be the consensus position on the number of Chinese nuclear warheads. However, some analysts believe that the number could be far higher and closer to 400 nuclear warheads. See, e.g., Robert A. Manning, Ronald N. Montaperto, and Brad Roberts, *China, Nuclear Weapons, and Arms Control: A Preliminary Assessment* (New York: Council on Foreign Relations, 2000), 64–66, http://www.taiwandocuments.org/cfr01.PDF.

18. China has two types of missiles that qualify as ICBMs. The DF-5 (CSS-4) has a range of 13,000 kilometers (km) and is China's only means of reaching the continental United States with a nuclear missile. Jeffrey Lewis, Hui Zhang, and the Department of Defense agree that China has roughly, and perhaps less than, 20 DF-5 missiles. Lewis, *Minimum Means of Reprisal*, 26–30; Office of the Secretary of Defense (OSD), Annual Report to Congress, *Military Power of the People's Republic of China 2007*, 18, http://www.defenselink.mil/pubs/pdfs/070523-China-Military-Power-final.pdf; Zhang, *Chinese Perspectives*, 49. The DF-4 (CSS-3) has a range of 5,500 km. Lewis and the Department of Defense report estimate that China has approximately 20 of these missiles as well. China is likely to soon deploy the DF-31, with a range of 7,250+ km and the DF-31A, with a range of 11,270+ km. OSD, *Military Power*, 42; and Lewis, *Minimum Means of Reprisal*, 30.

19. For a discussion of this view of China's nuclear policy, see generally Lewis, *Minimum Means of Reprisal*.

20. Ibid., 174–82.

21. The Ballistic Missile Defense Organization, the Department of Defense agency predecessor to the Missile Defense Agency, reported in 1995 that China had likely developed or acquired multiple forms of countermeasures. Ballistic Missile Defense Organization, BMDO

Countermeasure Integration Program, *Country Profiles*: China (Washington, DC: Pentagon, April 1995), http://www.fas.org/nuke/guide/china/bmdo1995.pdf.

22. Hui Zhang argues that Chinese concerns over BMD arise from concerns that future technological developments could deliver improvements that render the BMD system capable of circumventing countermeasures. Zhang, *Chinese Perspectives,* 35.

23. Pillsbury Report, 8.

24. Lewis argues that China is sincere in its effort to negotiate an arms control agreement to curb the development of space weapons and prevent a nuclear arms race. Lewis, *Minimum Means of Reprisal*, 139–40.

25. For a discussion of the connection between economic development and China's plans for civilian and military use of outer space, see Zhang, *Chinese Perspectives*, 44–45.

26. Hagt, "Chinese Military Modernization," 6.

27. Mueller, "Totem and Taboo," 11–13.

28. Hagt, "Chinese Military Modernization," 4.

29. OSD, *Military Power*, 14.

30. Rumsfeld Commission Report, 14.

31. See, e.g., Larry M. Wortzel, "China Waging War on Space-Based Weapons," The Heritage Foundation, 11 August 2003, http://www.heritage.org/Press/Commentary/ed081103b.cfm. See also Manning, Montaperto and Roberts, *China, Nuclear Weapons, and Arms Control*, n. 18.

32. Pillsbury Report, 3 (citing the publications of Colonels Li Daguang, Jia Junming, and Yuan Zelu). But for a broad criticism of this interpretation of Chinese texts, see Eric D. Hagt, 11–13.

33. Everett, "Arguing for a Comprehensive Space Protection Strategy," 22.

34. Mueller, "Totem and Taboo," 20.

35. Bates Gill and Martin Kleiber, "China's Space Odyssey: What the Antisatellite Test Reveals about Decision-Making in Beijing," *Foreign Affairs* 86, no. 3 (May/June 2007): 2.

36. Ibid.

37. Brad Roberts, Robert A. Manning, and Ronald N. Montaperto, "China: The Forgotten Nuclear Power," *Foreign Affairs* 79, no. 4 (July/August 2000): 59, stating, in 2000, that if the United States were to withdraw from the ABM Treaty and pursue a BMD system, "China is likely to embark on a full-scale drive for a far more powerful nuclear force."

38. Krepon states that if the United States deploys space-based ASAT weapons, "Moscow and Beijing will no doubt respond with their own ASAT programs." Michael Krepon, "Lost in Space: the Misguided Drive Towards Antisatellite Weapons," *Foreign Affairs* 80, no. 3 (May/June 2001): 6.

39. Zhang, *Chinese Perspectives*, 49–53.

40. Ibid., 53.

41. "Military doctrines and [concepts] such as 'control of space' and 'ensuring space superiority' have been unveiled successively, and space operation [command] headquarters and combatant troops are in the making. If we should remain indifferent to the above-mentioned developments, an arms race would very likely emerge in outer space in the foreseeable future." H. E. Mr. Qiao Zonghuai, vice foreign minister of China, "An Effective Way to Prevent an Arms Race in Outer Space—The Early Negotiation and Conclusion of an International Legal Instrument" (speech, UN Disarmament Conference, Beijing, China, 3 April 2002), available through the Ministry of Foreign Affairs of the People's Republic of China, http://www.nti.org/db/china/engdocs/qiao0402.htm.

42. Hagt, "Chinese Military Modernization," 3.

43. Ibid., 45.

44. Ibid.

45. Everett, "Arguing for a Comprehensive Space Protection Strategy," 20–21.

46. Rumsfeld Commission Report, 12; see also Everett, "Arguing for a Comprehensive Space Protection Strategy," 21: "Those who wish to challenge America's role in the world increasingly recognize the strategic importance of space and are more willing to deny us freedom of action in space by employing a wide range of methods." Ibid., 24.

47. Mueller, "Totem and Taboo," 7.

48. "Some military missions, such as boost-phase intercontinental ballistic missile defense against large adversaries, can feasibly be conducted only from space." Ibid., 12.

49. Eric D. Hagt suggests that the " 'S[c]hriever' space war games conducted by the U.S. Air Force in 2001, 2003, and 2005 strongly reinforced the conclusion that U.S. space control sets China as a target." Hagt, "Chinese Military Modernization," 5.

50. Mueller, "Totem and Taboo," 11–12.

51. The China Commission recommended that "Congress direct the Administration to engage in strategic dialogue with China on the importance of space surveillance, the military use of space, and space weapons. Such a dialogue should include strategic warning and verification measures." Pillsbury Report, 8.

52. "[I]f there are weapons in space, then there will be extensive development and deployment of ASAT, in order to negate those weapons." Richard Garwin, "Space Weapons or Space Arms Control," *Proceedings of the American Philosophical Society*, September 2001, 243, 250.

53. "As many experts point out, space-based weapons cannot protect satellites, as these weapons are vulnerable to the same types of attack as the objects they are meant to protect." Zhang, *Chinese Perspectives*, 39.

54. For a discussion of China's role of the linkage between PAROS and FMCT negotiations, see Lewis, *Minimum Means of Reprisal*, 102–7.

55. Zhang, *Chinese Perspectives*, 63.

56. Jofi Joseph, "The Proliferation Security Initiative: Can Interdiction Stop Proliferation?" *Arms Control Today* 34, no. 5 (June 2004): 6–13, http://www.armscontrol.org/act/2004_06/Joseph.asp.

57. One possible exception to this rule is the launch of a microsatellite.

58. Hui Zhang states that "the scope of space weaponry, as generally defined in China, includes not only space-based weapons, but also any weapons that target objects in outer space." Zhang, *Chinese Perspectives,* 35. The position I propose is in direct conflict with this understanding of space weapons.

59. Krepon, "Lost in Space," 6.

60. Zhang, *Chinese Perspectives,* 41.

61. Keir A. Lieber and Daryl G. Press, "The Rise of U.S. Nuclear Primacy," *Foreign Affairs* 85, no. 2 (March/April 2006): 42.

62. See Li Bin, "Paper Tiger with Whitened Teeth," *China Security,* Autumn 2006, 78–89, http://www.wsichina.org/cs4_5.pdf.

63. Hui Zhang suggests, among other possible measures, the US adoption of a no-first-use policy, the exclusion of Taiwan in the missile defense plan, and the development of a cooperative early warning system between the United States and China. Zhang, *Chinese Perspectives*, 41.

64. Dennis M. Gormley, "Cruise Control," *Bulletin of the Atomic Scientists* 62, no. 2 (March/April 2006): 26.

65. For a discussion of the various threats to satellites and the relative efficacy of space weapons and other mechanisms in defending from these threats, see Bruce M. DeBlois et al., "Space Weapons: Crossing the U.S. Rubicon," *International Security* 29, no. 2 (Fall 2004): 50–84.

66. Mueller, "Totem and Taboo," 18.

67. See DeBlois et al., "Space Weapons," 78.

68. Redundancy is the chief recommendation by Mueller. Mueller, "Totem and Taboo," 18.

69. Krepon, "Lost in Space," 7.

70. One suggestion by Frank von Hippel would be to try to detect the laser beam by its scattering of particles in the atmosphere and the target.

71. Zhang, *Chinese Perspectives*, 35.

72. Ibid., 68.

73. Ibid., 47.

Climate Change, National Security, and the *Quadrennial Defense Review*

Avoiding the Perfect Storm

John T. Ackerman

The Emergence of harmful nonlinear, long-term, cumulative, anthropogenically generated changes to the Earth's climate and natural environment pose a "serious threat to America's national security."[1] The changes are increasing risks and vulnerabilities across the strategic foundation identified by the 2006 *Quadrennial Defense Review* (*QDR*). Irregular, disruptive, traditional, and catastrophic challenges are surfacing as a result of global climate change and could merge into a "perfect storm" with disastrous consequences. In response, the Department of Defense (DoD) must blend the sustainability tenets of environmental security, ecological economics, and social/environmental equity with the pillars of the democratic peace theory. The conflict ameliorating powers of democracy, economic interdependence, and international organizations operating within the finite environmental, economic, and social limits of the sustainability tenets will enable the DoD to mitigate and adapt to the multiple challenges from climate change and build for the United States and for all other democratic states sustainable security. Importantly, US leadership toward sustainable security will enhance "freedom, justice, and human dignity" around the Earth; "grow the community of democracies";[2] sustain stability, prosperity, and security; and make it possible for the global community to "avoid the unmanageable and manage the unavoidable" consequences of global climate change.[3]

The 6 February 2006 *QDR* explains the current position and future direction for the DoD as the department fulfills its responsibilities to the people of the United States. The essence of the document is "a roadmap

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for change, leading to victory" in the long war against global terrorism.[4] The *QDR* focuses on how America will defeat "violent extremists who use terrorism as their weapon of choice, and who seek to destroy our free way of life."[5] While the *QDR* rightly seeks to identify capabilities required to defeat terrorism, another more potent threat to national security is emerging. The challenge to national security created by global climate change is based on threats, vulnerabilities, and risks across the spectrum of strategic, operational, and even tactical challenges[6] identified within the *QDR*. Military experts contend that "the consequences of climate change can affect the organization, training, equipping, and planning of the military services."[7] In response, and parallel to the challenges identified in the *QDR*, the United States must recognize this long-term threat, operationalize a new strategy, reorient capabilities and forces, reshape the defense enterprise, develop a twenty-first-century total force, achieve unity of effort, and create a roadmap to victory[8] aimed at coping with climate change.

Introduction

Global climate change can be an irregular, asymmetric challenge or a traditional, symmetric challenge. Global warming can also "act as a threat multiplier for instability in some of the volatile regions of the world."[9] The abilities of traditional military forces to mitigate or help states adapt to climate change will be severely tested in the coming decades as the United States encounters global warming challenges. The strategies the United States must adopt will be direct and conventional as well as indirect and unconventional. It must also prepare for abrupt surprises and deal effectively with the uncertainty embedded in Earth's complex and chaotic climate system.[10] Proper preparation will increase the options for US decision makers; these preparations must be based on "the principles of transparency, constructive competition to encourage innovation, agility and adaptability, collaboration and partnership" that guide the current *QDR*.[11] Importantly, a "model of continuous change and reassessment" must guide the effort to protect US national interests.[12] Inherent in this effort are reforms to defense activities that will create sustainable security;[13] a focus on building cooperation; transparent communications globally; and gathering actionable social, political, economic, technological, and environmental intelligence. The goal of many of these activities is to enable states to provide sustainable security for themselves and for their neighbors. In addition, the United States must

minimize the costs of climate change domestically and internationally by leading scientific, technological, governmental, and managerial innovation of climate change solutions.[14]

Preparing and shaping the security future of the United States involves focusing on traditional, irregular, disruptive, and catastrophic threats that global warming can create. Operationalizing the strategy should encompass two main priorities: mitigating the effects of climate change and adapting to climate change consequences within a sustainable security plan. As the current *QDR* notes, there is no "one size fits all" approach to many security threats,[15] and there is no one best way to tackle climate change.[16] The key to success lies in understanding the threats, vulnerabilities, and risks associated with global warming and creating capabilities for responding across a spectrum of challenges.

The Long-Term Threat

The 2006 *QDR* states that our way of life is threatened: "The enemies we face are not nation-states but rather dispersed non-state networks."[17] Today, we also face another emerging threat to our way of life that will harm our natural resources, wildlife, economy, and health.[18] This peril, global climate change, threatens not only the United States but all nations around the world.

The industrial revolution brought widespread improvements to the length and quality of human life. However, the accompanying extensive deforestation and reliance on fossil fuels increased the concentration of greenhouse gases in the atmosphere. In fact, the concentration of a major greenhouse gas in the atmosphere, carbon dioxide (CO_2), was measured using Antarctic ice cores extending back 650,000 years. The concentration is greater today than at any other period recorded before.[19] Importantly, this increased concentration of greenhouse gases along with other human activities is unequivocally warming Earth's climate system. The consequences of this change appear in "increases in global average air and sea temperatures, widespread melting of snow and ice, and rising global average sea level."[20] In fact, the effect of climate change on natural systems in particular has been varied and extensive.

Long-term continental, regional, and ocean basin scale changes have been observed.[21] For example, in the last 100 years average Arctic temperatures have increased almost twice as fast as the previous average global rate. Also, Arctic sea ice is dramatically shrinking, permafrost layers are

melting, precipitation patterns are changing globally, droughts are longer and more severe, heavy rainfall events are increasing in frequency, and tropical cyclones are more intense.[22] In general, Earth now experiences fewer cold days and nights and less frost, while the number of hot days and nights—as well as heat waves—occur more often than in the past.[23] The oceans are also warming. Measurements indicate that not only are sea surface temperatures increasing but that the heat has also penetrated as far as 750 meters below the surface.[24] The predominant cause of these global changes has also been identified.

The increase in average global temperatures since 1950 is "very likely" due to the increase in human-produced greenhouse gas emissions.[25] Specifically, a human fingerprint has been found on the warming of the oceans, increases in continental temperatures, temperature extremes, and changes in wind patterns. Earth will continue to warm and sea levels will rise even if greenhouse gas emissions stopped today, but the overall temperature increase would be substantially less if emissions stabilized.[26] Interestingly, this means that climate change has become a threat to national security not unlike current security threats.

The *QDR* describes operational lessons from the war on terrorism. These broad experiences offer insight into the long-term threat of global climate change. Specifically, the *QDR* notes that the DoD needs more authority and resources to build "partnership capacity."[27] The challenge of global climate change will also require that the DoD has the authority, ability, and resources necessary to "work with and through others and of shifting the emphasis from performing tasks ourselves to enabling others."[28] This process is essential for tackling global warming as other states must organize and prepare for climate change while conducting efforts to reduce greenhouse emissions from all sources.[29] The second lesson asserts that the United States must take early precautionary measures to "prevent problems from becoming conflicts and conflicts from becoming crises."[30] Again, the tasks required for mitigating and adapting to global warming will be less expensive, less conflictual, and less encompassing if early preventive actions are taken.[31] The third operational lesson involves increasing the freedom to act against the threats.[32] The United States must aggressively lead the effort to tackle climate change by assembling partnerships and building trust and cooperation.[33] Trust and cooperation can be enhanced by "cooperative engagement" using all elements of national power, not just the military.[34] The final operational lesson contends that the United States must make the cost

of terrorism much greater for our enemies than for us.[35] In the struggle to mitigate and adapt to climate change, the United States must shift the costs of greenhouse emissions to the emitters, assist their transition to carbon-free processes, and encourage carbon-free technological and sustainable development.[36] Ultimately, the DoD can help shift the balance and leverage US power by "accelerating the adoption of improved business processes and innovative technologies" that increase fuel efficiency, decrease fuel consumption, and reduce greenhouse gas emissions.[37] Obviously, climate change is a long-term threat to US national security in broad areas—but where and how specifically does this threat manifest itself?

Operationalizing the Strategy

A strategic foundation similar to the one described in the 2006 *QDR* can be created to counteract the challenge of global warming. Two priority responses for overcoming this challenge have been identified: mitigation and adaptation.[38] The 2006 *QDR* also presents four focal areas that can be used to coordinate DoD efforts in response to near-term and long-term risks.[39] Although these focus areas were designed primarily for focusing military capabilities, they can be used to identify strategic threats, vulnerabilities, and risks that the United States must address to sustain national security in other areas as well. Specifically, strengthening US "capabilities in these areas" will "improve the versatility of the force to perform a wider range of"[40] security operations in the future. The report identifies four types of challenges—traditional, irregular, disruptive, and catastrophic—that the United States must address to protect national interests.

Traditional Challenges

Traditional challenges to US interests require employing military forces in conventional activities to prevent military competition and conflict.[41] In the climate change threat domain, traditional forces would be employed to prevent conventional conflicts driven by climatic and environmental changes. Three relevant examples of traditional challenges to US security interests that could develop as a result of global climate change are droughts, floods, and heat waves. While droughts and floods have occurred many times in US and world history, climate change could magnify the scale, intensity, and duration of future ones. Heat waves already occur around the world, killing

thousands, but global warming may increase the areas affected and make the heat waves longer and more intense, leading to thousands more deaths and mass unrest. In other words, adverse climatological effects may have direct and negative political consequences that threaten local and regional stability and long-term US security.

Climate change is altering global hydrological cycles. The warming process is having a direct effect on the quantity and quality of fresh water available both for human uses and for natural ecosystems. "The hydrologic cycle has accelerated, with more evaporation and precipitation overall and a larger proportion of the precipitation occurring in downpours."[42] In many regions of the world, increased temperatures have also changed the timing of mountain snowfall melt.[43] The accelerated cycle can cause too much or too little rain or snow to fall, often at the wrong time of the year and in the wrong place. For example, the Amazon Basin is in the grip of a record drought that has been linked to climate-change-induced warming of the sea surface.[44] Also, hydrological cycles in the western United States, the Rhine River Valley in Europe, the Hindu-Kush region in Asia, and the Andes highlands of South America are negatively affected by climate change. As a consequence, snowmelt occurs earlier and earlier each year. The increasing unpredictability and intensity of the hydrological cycle is having direct impacts on the human and natural systems that depend upon stable hydrological cycles for reliable water quality and quantity.

The Intergovernmental Panel on Climate Change (IPCC) predicts that the extent of drought-affected areas globally will likely increase and that this increase will be most deleterious to subsistence farmers. Globally, drought will reduce water availability, hydropower potential, summer tourism, and overall crop productivity.[45] Scientists have also compared data from western US fires against hydro-climatic and land-surface data and found the number of western wildfires has quadrupled, and the area burned from 1987 through 2003 is 6.5 times greater compared to that burned from 1970 through 1986. During this period, the typical wildfire season increased by 78 days (64 percent), and the average burn duration of large fires increased from 7.5 to 37.1 days. Changes in climate particularly caused an increase in spring and summer temperatures and an earlier spring snowmelt, driving up wildfire frequency across the western United States.[46]

Changes in snowmelt have significant ramifications for human populations as well. Most importantly, over one-sixth of the world's population relies on snow and glacial melt for water supplies. If temperatures continue

to increase, peak river runoffs that previously occurred when demand was highest in summer and autumn may shift to winter and early spring, when demand is much less. In addition, winter river runoffs could be lost to the oceans in countries with insufficient water storage capacities.[47] Unfortunately, one face of the climate-change-enhanced hydrological coin is drought from too little water, while the other is flooding from too much water.

Overall, extreme precipitation events are predicted to affect natural ecosystems, therefore increasing the probabilities for extinction, invasion by nonnative species, and spread of exotic diseases.[48] In addition, climate-change-driven sea level rise will flood important coastal wetland breeding grounds for both aquatic life and many bird species. Sea surge will drive salt waters deeper into estuaries, changing the delicate balance between salt and fresh water and hastening more erosion.[49] Global warming will also lengthen the cyclone season. Researchers conclude that atmospheric water vapor concentrations are on the rise, leading to stronger cyclones producing more rainfall and more destructive storms overall. More rainfall will also lead to more severe flooding; more powerful winds will result in higher storm surges, bigger waves, and more erosion.[50] As a result, "the resilience of many ecosystems is likely to be exceeded this century by an unprecedented combination of climate change, associated disturbances (e.g., flooding, drought, wildfire, insects, ocean acidification), and other global change drivers (e.g., land use change, pollution, over-exploitation of resources)."[51]

Floods are the United States' most costly and destructive natural disaster—over 160 million acres (7 percent) of US land are flood plains.[52] A one-meter rise in sea level would inundate 35,000 square kilometers (km^2) of US land, and a 0.5 meter rise would inundate 18,000 km^2.[53] The mid-Atlantic and south-Atlantic states and the states along the Gulf Coast would be most vulnerable. Coastal islands in New England would also be at risk. The western coast of the United States would be at a lower risk, but the San Francisco Bay area and the Puget Sound region would be exceptions. Obviously, major US cities like New Orleans, Tampa, Miami, Baltimore, Philadelphia, New York, Boston, and Washington, DC, would be severely affected.[54] Protective measures such as dikes, levees, seawalls, and bulkheads range in cost from $150 to $4,000 per linear foot. Overall, studies indicate the cumulative costs in defensive and emergency response measures alone of a one meter rise in sea level by 2100 would be between $20 and $150

billion.[55] DoD planners, in particular, should be cognizant that rising sea levels will inundate several major, irreplaceable DoD facilities.[56] Droughts and floods have been traditional threats to humans for millennia, but the amplification of global temperatures will increase the frequency and intensity of another conventional threat, heat waves.

If average daily temperatures shift because of climate change, then the distribution of daily conditions also shift. This generally leads to a much greater probability of exceeding human health-threshold temperatures for a day or sequence of days. For example, higher temperatures lead to higher absolute humidity and, consequently, to a much higher heat index. In addition, an increase in the frequency of high temperatures can create increased stress levels that weaken and kill off susceptible flora and fauna. For example, coral cannot readily relocate to cooler waters because of geological and biogeochemical conditions; consequently, higher ocean water temperatures are increasing the occurrence of coral bleaching and coral reef die-offs.[57] The IPCC concludes that "approximately 20–30% of plant and animal species assessed so far are likely to be at increased risk of extinction if increases in global average temperature exceed 1.5–2.5°C."[58]

NASA confirms that the last 10 years were the warmest on record; 2005 is tied with 1998 as the hottest year on record globally. In fact, 1998 received a 0.2°C boost in temperature from El Niño, and 2005 was not an El Niño year.[59] In the United States, 2006 was the fourth warmest year on record. Climate researchers also found that the number of extreme heat events in the twentieth century increased in frequency.[60] Some predict that all US regions will experience more extreme heat events and that the number of extremely hot days—defined as daily temperatures greater than 95 percent of daily temperatures currently—will double. The southwest region would be most affected, with people living in this area experiencing up to 100 additional extremely hot days each year.[61] Increased temperatures as a result of global warming will also aid the development of the deadly air pollutant ozone (commonly called smog) and increase the number of heat-related deaths.

As heat and smog increase, the number of summertime healthy air days in 15 large eastern US cities will be significantly reduced. Unhealthy "red alert" days would double; on average people in these cities would experience nearly 20 percent fewer clean air days in the summer.[62] Additionally, "cities that currently experience heat waves are expected to be further challenged by an increased number, intensity and duration of heat waves during the

course of the century, with potential for adverse health impacts. The growing number of the elderly population is most at risk."[63] Specifically, "heat waves in temperate countries induce heat stroke and circulatory ailments that result in increased morbidity and mortality."[64] Finally, the 2003 European heat wave that killed over 35,000 people is an example of how higher temperatures lead to higher absolute humidity and, consequently, a much higher and deadlier heat index.

Irregular Challenges

Today, irregular challenges to national security can come from state and nonstate actors employing asymmetric tactics to counter US strengths. For example, nonstate actors may employ terrorism or instigate an insurgency to counter US strengths.[65] In a similar vein, many researchers consider global climate change a cumulative and potentially nonlinear, irregular process.

Many evolutionary processes are characterized by nonlinear, punctuated equilibrium;[66] irregular climate change occurs with similar evolutionary characteristics.[67] For instance, the disintegration of saltwater fishing industries due to ocean acidification could spark inter- and intrastate conflict as numerous environmental refugees migrate from their seaside homelands that suffer devastation induced by a climate-change-induced fisheries collapse. In response to such calamities, global societies may resort to radical geo-engineering projects to mitigate climate change. However, unexpected side effects created by international geo-engineering projects designed to alleviate global warming could generate unforeseen, unbalanced threats to national security and US interests. At a minimum, the security implications of mass migration will challenge the economic and security resources of states that receive the migrating populations.

Increasing concentrations of CO_2 in the atmosphere also increase the acidification of the oceans. In a 2007 IPCC report, scenario projections forecast an average reduction in global surface ocean pH (the lower the pH the greater the acidity) of between 0.14 and 0.35 units by 2100 that will be added to the present decrease of 0.1 units since preindustrial times.[68] Scientists contend that "in colder waters, a larger decrease (in pH) will occur. Because the change is occurring so rapidly (in geological terms), natural buffering is not able to moderate the changes. As a result, calcifying organisms are expected to be severely stressed or be unable to survive."[69] In sum, higher acid levels could extinguish many forms of valuable, life-

supporting marine life by preventing the formation of calcium shells and coral reefs—the nurseries of the seas—which will be increasingly vulnerable.[70] Even though the oceans have an almost infinite ability to absorb atmospheric CO_2, any change to the pH of the oceans has dramatic negative effects on the oceanic web of life and, consequently, on human societies that depend on the oceans for sustenance and for economic well-being.

The marine web of life relies on calcifying organisms, such as corals, crustaceans, some mollusks, and many organisms lower on the food chain. What specifically will happen to the ocean ecosystems as the seas become more acidic is unknown; however, scientists conclude that there is little mankind can do to stop the deleterious near-term increased acidification of our seas.[71] IPCC scientists assert that "the progressive acidification of oceans due to increasing atmospheric carbon dioxide is expected to have negative impacts on marine shell forming organisms (e.g., corals) and their dependent species."[72] Ultimately, ocean acidification could degrade or destroy many marine food supplies around the globe. The irregular security challenge presented by the loss of these major food chains could induce massive movements of environmental refugees.

Global warming will have varying effects on populations across the regions of the world. On average, a 13°C increase in temperature will decrease water availability in mid-latitudes and semiarid low latitudes. As a consequence, up to 30 percent of all species could face extinction.[73] Large movements of people in response to climate change will inevitably degrade environmental conditions in areas that receive the refugees. Population expansions in many parts of the world have already contributed to the degradation and unsustainable use of 60 percent of the world's assessed ecosystem services.[74] Conflict in the Darfur region of Sudan is an example in which marginal environmental conditions exacerbated by climate change and other geopolitical factors forced groups to migrate to areas with better environmental services. Unfortunately, the areas where these environmental refugees moved to were already occupied—the result was violent conflict that continues despite increasing international attention.[75] Global warming could provoke environmental refugees through a variety of climatological processes.

Deserts are expanding in China, Morocco, Tunisia, and Libya. In Egypt, half the irrigated croplands are degraded by salinization, while in Turkey over 160,000 km^2 of farmlands are less productive because of soil erosion. In the United States, Louisiana loses approximately 65 km^2 per year to the

sea, while in Alaska over 200 communities may soon be inundated by the ocean. Internationally, Tuvalu and other low-lying Pacific island states could disappear if sea levels continue to rise. In central, south, east, and southeast Asia, declining freshwater availability in large river basins could adversely affect over one billion people by 2050.[76] In the aggregate, ecological and social degradation by erosion, salinization, desertification, deforestation, drought, floods, heat waves, and other climatically induced environmental problems could produce millions—perhaps billions—of environmental refugees.[77] The enormous pressure to mitigate climate change intensified by massive refugee movements could force states to apply extreme measures, such as geo-engineering, in response.

Geo-engineering occurred for thousands of years, resulting in many unexpected side effects. For example,

> the increased reflectivity of the Earth's surface caused by human-induced changes in vegetative cover dating back thousands of years has exerted a cooling effect on global climate. The largest [of] such effects ha[s] been the replacement of forests by croplands and of croplands and grasslands by deserts (each having the effect of making Earth's surface more reflective to incident sunlight). Further transformations in these directions will probably occur over the century ahead, even though they are not generally considered desirable from an ecological standpoint.[78]

Unforeseen and perhaps undesirable, nonlinear consequences of any prospective climatic geo-engineering process are likely, and some researchers contend that "climate engineers wildly exaggerate what is possible and scarcely consider political, military, and ethical implications of attempting to manage the world's climate." Advocates of such projects seldom consider the potential degradation or destruction of natural ecosystems.[79] One such proposal designed to offset the warming influence of man-made greenhouse gases is a floating Styrofoam raft on the ocean the size of a continent that would reflect sunlight back to space. Several unwanted side effects on both climate and marine life would surely result, and this effort would do nothing to "offset the impact of the human-caused buildup of atmospheric CO_2 on the acidity of the oceans."[80] Another approach aims to decrease global warming by "increasing the reflectivity of the upper atmosphere or by directing some of the solar beam away from the Earth before it reaches the top of the atmosphere."[81] Such radical efforts could be realized by injecting particulate matter into the stratosphere using large cannons; but the secondary effects of this process would likely destroy the protective ozone layer. A third geo-engineering example involves constructing enormous "sunlight deflec-

tors above the atmosphere" built by "launching into Earth orbit roughly 50,000 reflective mirrors, each roughly 10 km by 10 km, or, after building a manufacturing plant on the Moon, the lofting of an 1,800-km diameter solar deflector to an altitude roughly five times the distance of the Moon from the Earth."[82] Unfortunately, unforeseen secondary and tertiary side effects, huge potential costs, and overall effectiveness are totally unknown at this time.

Disruptive Challenges

Disruptive challenges include situations where competitors employ revolutionary technologies or methods that might counter or negate current US military advantages.[83] While not dependent on revolutionary technologies or methods, climatic or environmental changes that run counter to or cancel current US and developed state advantages include famines, changes in water quality and quantity, or pandemics, which could pose disruptive threats to US security and interests. These events, intensified and expanded by disruptive climatic changes such as alterations in rainfall patterns affecting agricultural productivity, declining runoff from glaciers or other rain-/snow-fed water systems, and spread of vector-borne tropical diseases to previously disease-free temperate regions will have dire and unsettling consequences.

The great "breadbasket" of agricultural zones around the world is expected to be particularly affected by global warming—but scientists disagree on what form the effects will take. For example, some researchers predict monsoon rains and flooding will increase. Conversely, other scientists think that air pollution will reduce the amount of solar radiation warming the surface and cause a weakening of the monsoons. For most tropical and subtropical regions, "monsoon rainfall provides most of the water and soil moisture needed by agriculture. Significantly heavier rains would make the fields too muddy, whereas significantly less would make the fields too dry."[84] Scholars have also noted that "societies in the region are structured based on past experience with the monsoons, so altered conditions would create disruption until adjustments were made. Larger year-to-year fluctuations in intensity would be likely to stress available systems. Worldwide, monsoons provide water for billions of people, and monsoons redirect atmospheric circulation, affecting global weather."[85]

Researchers contend that global food production should "increase with increases in local average temperature over a range of 1–3°C."[86] However,

if global average temperatures exceed 1.5–2.5°C, scientists predict "major changes in ecosystem structure and function, species' ecological interactions, and species' geographic ranges, with predominantly negative consequences for biodiversity and ecosystem goods and services, e.g., water and food supply."[87] Scientists note that "poor communities can be especially vulnerable, in particular those concentrated in high-risk areas. They tend to have more limited adaptive capacities, and are more dependent on climate-sensitive resources such as local water and food supplies."[88] Africa is especially vulnerable to climate change, with many African states already suffering varying degrees of famine and food scarcity. Climatic changes could push these states toward failure and collapse.[89] Climate change will not only disrupt global food supplies but may also affect the quality and quantity of both fresh and saltwater.

Climate scientists predict that "by mid-century, annual average river runoff and water availability are projected to increase by 10–40% at high latitudes and in some wet tropical areas, and decrease by 10–30% over some dry regions at mid-latitudes and in the dry tropics, some of which are presently water stressed areas. In some places and in particular seasons, changes differ from these annual figures."[90]

Furthermore, many lakes and rivers worldwide will likely "experience changes in their thermal structure and water quality."[91] Researchers determined that "changes in the timing of snowmelt are leading to earlier runoff, changing the temperature and flows of rivers and streams, and, in the summer, causing warmer temperatures and lower flow rates. All of these changes will disrupt aquatic ecosystems, fish, and wildlife."[92] Field researchers have also found that "snowmelt is a vital contributor to water resources for many regions around the world, especially for those depending on rivers originating in high mountain regions and for water systems relying on seasonal snowpack to refill reservoirs in spring and summer. Relatively little warming can, in some situations, cause very large changes in water availability."[93] Scientists also predict that this century water supplies stored in glaciers and snow cover will decline and the decline will substantially reduce water availability in those regions supplied by meltwater from major mountain ranges, where more than one-sixth of the world's population currently lives.[94] In Africa alone, by 2020 between 75 and 250 million people will be exposed to an increase of water stress because of climate change.

Climatically-driven changes in freshwater and marine biological systems could include decreases in ice cover accompanied by alteration of salinity,

oxygen levels, and circulation. The effects on living organisms include "shifts in ranges and changes in algal, plankton and fish abundance in high-latitude oceans; increases in algal and zooplankton abundance in high-latitude and high-altitude lakes; and range changes and earlier migrations of fish in rivers."[95] Climate-change-related famine and water stresses could disrupt societies, thus weakening their ability to respond to additional climate-change-driven threats such as pandemics.

The effects of disease vectors on natural ecosystems are not well studied, but some empirical evidence is emerging. Researchers conclude that an increase in global temperatures will increase survival rates of many different disease vectors, possibly leading to increases in the frequency and intensity of vector-borne disease and pandemics.[96] For example, the temperature increase of about 1°C per decade since 1970 in Alaska has caused permafrost thawing and allowed the overwintering of spruce bark beetles and the influx of additional forest disease vectors. These disease attacks weakened spruce forests, resulting in 9,000 km^2 of dead trees on the Kenai Peninsula, making forests on the peninsula more prone to frequent and extensive wildfires.[97] Clearly, pandemics can have broad and complex ecological, security, and social ramifications for humans.

Scientists conclude that the spread of diseases among populations already weakened by global warming will threaten plant, animal, and human health. The spread of vector-borne diseases (for example malaria, dengue, yellow fever, and encephalitis) and nonvector-borne diseases (such as cholera and salmonellosis) could pose a serious threat to human health.[98] In sum, the potential for societal disruption from climate-change-induced famine, water stress, and pandemics is equal to, and possibly greater than, the threat from adversaries introducing revolutionary new technologies or methods designed to counter US capabilities. Specifically, "endemic morbidity and mortality due to diarrhoeal disease primarily associated with floods and droughts are expected to rise in East, South and Southeast Asia due to projected changes in hydrological cycles associated with global warming. Increases in coastal water temperature would exacerbate the abundance and/or toxicity of cholera in South Asia."[99]

Catastrophic Challenges

The US strategic view of catastrophic challenges focuses on terrorists or rogue states employing weapons of mass destruction (WMD) or methods producing WMD-like effects against US interests.[100] Climatic and environmental changes producing WMD-like effects against US interests could

occur from a one- to eight-meter sea level rise resulting from some or all of the polar ice caps melting. In addition, mass extinctions of animal and plant species caused by degradation of natural habitats and niches driven by sea level rise and/or global warming would be disastrous for all of mankind. Security specialists also contend that "projected climate change will seriously exacerbate already marginal living standards in many Asian, African, and Middle Eastern nations, causing widespread political instability and the likelihood of failed states."[101] Climate change may have an additive feature that could simultaneously induce failures in both natural and human systems, resulting in global calamity.

Research on warming at both poles indicates that changes in the ice system may be approaching catastrophic levels; changes appear to be occurring more rapidly than previously observed or expected.[102] In Greenland and in the Antarctic, ice sheets are melting and thinning more rapidly than in the past.[103] In the Arctic, researchers found that the loss of mass from the Greenland ice sheet doubled between 1996 and 2005 to 224 ± 41 cubic kilometers (54 ± 10 cubic miles) per year.[104] Climate models project that by 2100 the high northern latitudes will be as warm, or warmer, than they were during the last interglacial period. Paleoclimatological researchers have determined that during the last interglacial period, approximately 127,000 to 130,000 years ago, sea levels were four to six meters higher than today.[105] Loss of the southern half of the Greenland Ice Sheet alone would raise global sea level by two to three meters, and full melting of the sheet would raise sea levels roughly seven meters. Finally, if the Western Antarctic Ice Sheet (WAIS) were to melt, sea levels would rise about six meters,[106] and the "retreat of Antarctic Sea ice and even partial loss of the WAIS will alter ocean circulation, weather, and the survivability of key species."[107]

The Arctic is warming almost twice as fast as the rest of the world, and significant challenges to arctic communities are apparent today. Scientists determined that average winter temperatures increased as much as two to four degrees Celsius in the past 50 years in Alaska, western Canada, and eastern Russia. Alaskan Inuit elders report unpredictable sea-ice conditions have made hunting more difficult and hazardous. Conservative estimates project a 50 percent decline in sea ice during the Arctic summer by the end of this century. Less conservative models show the "complete disappearance of summer sea ice. Because ringed seals and polar bears are unlikely to survive in the absence of summer sea ice, the impact on

indigenous communities that depend upon these species is likely to be enormous."[108]

Today, 21 percent of the world's population lives within 30 km of the coast, and the coastal population is growing at twice the average rate of global population.[109] Some researchers have ascertained that a sea level rise of one to five meters by 2100 would displace roughly between 130 and 410 million people.[110] Consequently, large-scale polar ice cap melting would undoubtedly have calamitous global repercussions. One of these repercussions could involve global die-offs of plants and animals.

Ecosystem experts conclude that climate change already affects global biodiversity. Global warming has already pushed the arrival of springtime on every continent forward by not just a few days but by weeks. In addition, many species are migrating poleward, the natural ranges of some species are contracting, predator-prey relationships are being altered, and abundance and ranges of parasites and disease vectors are changing—all contributing to the extinction of individual species.[111] Flora and fauna experts argue that "ecosystems are generally attuned to the prevailing weather regimes, and shifts in the location of these regimes will lead to shifts in ecosystem locations as the warm edges contract and poleward edges become more conducive to growth. The differing pace of movement will likely cause significant disruption of ecosystems and their important services."[112] As mentioned before, approximately 20 to 30 percent of all plant and animal species surveyed will be at increased risk of extinction if global average temperature increases exceed 1.5–2.5°C.[113] Furthermore, scientists conclude that "projected decreases in rainfall in the tropics would lead to an extensive die-back of tropical forests and the ecosystem changes could occur in a less than a century. Forest death would lead to loss of many ecosystems rich in biodiversity and would significantly reduce carbon storage amplifying global warming."[114] If tropical forests die back as predicted, this would "result in loss of a very productive ecosystem and diminution of water storage globally, greater warming and significant loss of biodiversity."[115] Other eco-regions of the world will also be significantly threatened with a severe loss of biodiversity through species extinction due to global warming. Latin America is particularly vulnerable to species loss from climate-induced habitat changes.[116]

IPCC models project that if global average temperatures exceed 1.5–2.5°C, then "major changes in ecosystem structure and function, species' ecological interactions, and species' geographic ranges [will occur], with predominantly

negative consequences for biodiversity, and ecosystem goods and services, e.g., water and food supply."[117] As a corollary, researchers conclude that "in regions where weather regimes shift, societal tuning to particular types of conditions will be upset, possibly requiring adjustments to buildings, infrastructure, transportation, health care, and community lifestyle. Globally, the weather and its seasonal patterns in each region will become more like that hundreds of kilometers toward the equator, necessitating a wide range of adjustments."[118] These adjustments required to mitigate or adapt to climate change will tax the resources and capabilities of developed states and are beyond the capabilities of poor or unstable states. Consequently, mass extinctions will destroy biodiversity, amplify global warming, debase the quality of life for humans, and threaten the stability and security of many states.

Climate change may provoke a large-scale breakdown of natural ecosystems. It may also induce state failure as key natural ecosystems collapse. Conversely, the failure of certain states may also threaten the survival of key natural ecosystems. The deleterious circular, additive attributes inherent in many of the challenges created by climate change infuse substantial pressures on natural ecosystems and state infrastructures. The Scientific Expert Group on Climate Change and Sustainable Development warns of the dangerous additive quality of global warming, noting that

> climate change during the 21st century is likely to entail increased frequency and intensity of extreme weather, increases in sea level and the acidity of the oceans that will not be reversible for centuries to millennia, large-scale shifts in vegetation that cause major losses of sensitive plant and animal species, and significant shifts in the geographic ranges of disease vectors and pathogens. These changes have the potential to lead to large local-to-regional disruptions in ecosystems and to adverse impacts on food security, fresh water resources, human health, and settlements, resulting in increased loss of life and property. Some sectors in some locations may benefit from the initial changes in climate. Most impacts are expected to be negative, however, with the social and economic consequences disproportionately affecting the poorest nations, those in water-scarce regions, and vulnerable coastal communities in affluent countries.[119]

As a result of the cumulative characteristics of climate change, the degradation and outright destruction of life-supporting ecosystems could have nonlinear environmental consequences with catastrophic global effects. The loss of environmental services provided by these natural ecosystems could force large populations to exploit other less stable environmental services in an attempt to replace lost services. If climate change induces environ-

mental refugees and these migrants move into areas of marginal ecological and social stability, the vulnerable state may be pushed over the edge and become a failed state. For example, in northern Africa, "natural droughts, compounded by poor agricultural practices and land-tenure policies, have contributed to severe famines, such as those in the Sahelian zone of Africa in the early 1970s and 1980s, which in turn led to the displacement of large numbers of people."[120] The displacement of massive numbers of poor, starving people into states that already have difficulty supporting their own indigenous populations is a recipe for more environmental degradation and, eventually, state failure. Multiply these deadly circular events across the globe and the end result could be cataclysmic failure of both ecological and human social systems.

National security experts assert that "when climates change significantly or environmental conditions deteriorate to the point that necessary resources are not available, societies can become stressed, sometimes to the point of collapse."[121] An analysis of the impact of climate change on international security by national security experts concludes that

> unlike most conventional security threats that involve a single entity acting in specific ways and points in time, climate change has the potential to result in multiple chronic conditions, occurring globally within the same time frame. Economic and environmental conditions in already fragile areas will further erode as food production declines, diseases increase, clean water becomes increasingly scarce, and large populations move in search of resources. Weakened and failing governments, with an already thin margin for survival, foster the conditions for internal conflicts, extremism, and movement toward increased authoritarianism and radical ideologies.[122]

Attacks on state support systems could come from diverse sectors. Currently many states have impaired access to food and water; climate change will only exacerbate these vulnerabilities. In addition, "violent weather, and perhaps land loss due to rising sea levels and increased storm surges, can damage infrastructure and uproot large numbers of people."[123] As discussed before, many negative effects of climate change could create large numbers of refugees who will undoubtedly cross borders in search of resources, bringing large-scale violent conflicts in their wake. The massive migrations of people from Bangladesh to India in the second half of the last century were attributed, among other environmental factors, to the degradation of arable land in Bangladesh. The migration severely degraded economic and political conditions in India, and violence ensued between the locals and the new

migrants.[124] Less recent history also provides vivid examples of state collapse as a result of changing environmental factors.

Human-induced devastation of environmental conditions and climate change directly contributed to the disintegration of the Easter Island, Mayan, and Anaszai Indian societies.[125] Societal collapse can be one major outcome of such catastrophic challenges, but, unfortunately, "when governments are ineffective, extremism can gain a foothold. While the developed world will be far better equipped to deal with the effects of climate change, some of the poorest regions may be affected most. This gap can potentially provide an avenue for extremist ideologies and create the conditions for terrorism."[126]

The catastrophes that could ensue from the melting of the polar ice caps, mass die-offs of plants and animals, and the climate-change-induced failure of states to provide basic services threaten US security and national interests. However, the convergence of these traditional, irregular, disruptive, and catastrophic challenges presents the gravest threats, risks, and vulnerabilities that any sustainable security must address.

The Perfect Storm

Overall, a variety of forcings that control climate add and subtract from the overall global average temperature. Researchers have found that positive forcings (forces that increase temperature, such as rising greenhouse gas emissions levels or polar ice melting) currently may be underestimated. Temperature increases predicted in the coming decades may greatly augment ongoing positive forcings as soils, oceans, and forests may release more CO_2 and methane. Additional greenhouse gases could amplify predicted temperature ranges from 1.5–4.5°C to 1.6–6.0°C[127] or further enhance warming by an additional 15–78 percent.[128] Consequently, warming could be much greater than anticipated by the IPCC with the accompanying magnification of climate change effects. Unfortunately, scientists still do not understand how the feedback mechanisms that control climate interact, but the potential for "dangerous" climate change that raises sea levels and drives species to extinction may only be less than 1°C away from current global averages.[129] As a result, climate change could result in "multiple chronic conditions, occurring globally within the same time frame" acting as a "threat multiplier for instability in some of the most volatile regions of the world."[130] Therefore, the threats are clear, the scale is global, the solutions are within reach, and the alternative to no action may be a "perfect storm":

> Climate change is expected to have a widespread negative effect on water resources, natural ecosystems, coastal communities and infrastructure, air and water quality, biodiversity, coastal fisheries, parks and preserves, forestry, human health, agriculture and food production, and other factors that support economic performance and human well-being around the world. The impacts on society are expected to differ greatly depending on regional and local cultural practices, engineering infrastructure, farming resources, governments, natural resources, population, public health conditions, financial resources, scientific and technological capability, and socioeconomic systems. . . . Only by mitigating the effects of climate change and finding new, achievable ways to adapt to them can the world find stability and prosperity. . . . The challenge now is to keep climate change from becoming a catastrophe.[131]

The simultaneous occurrence of several climate change threats, the "perfect storm," would overwhelm the ability of US forces to respond in a timely and effective manner. Consequently, the potential of a global warming "perfect storm" will force US defense planners toward a sustainable security strategy (see fig. 1).

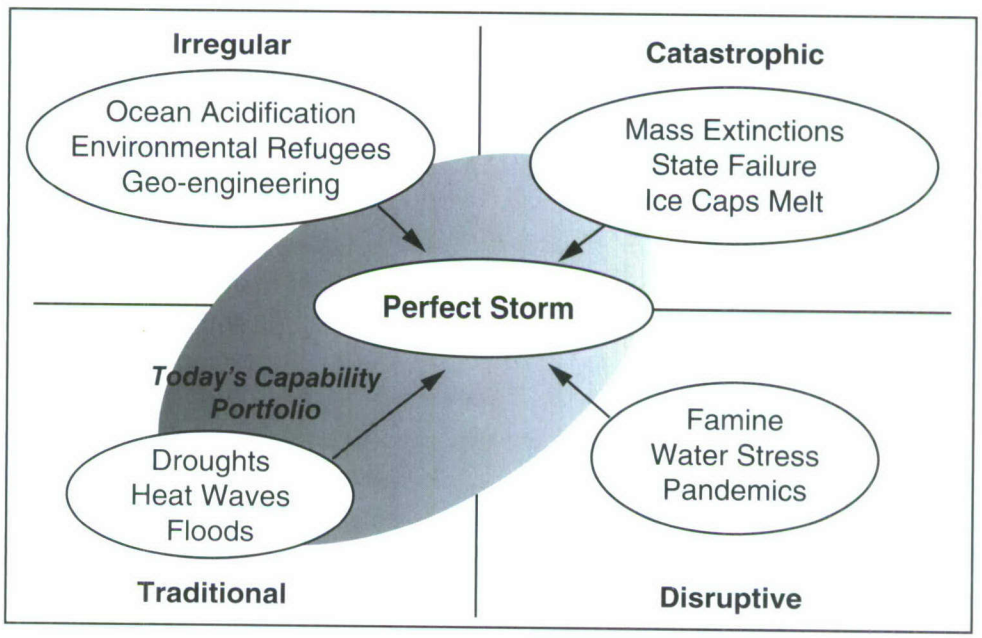

Figure 1. Climate Change Security Challenges: The Perfect Storm. (Modified by John T. Ackerman from "Quadrennial Defense Review Results" [Washington, DC: Office of the Secretary of Defense, 3 February 2006], transcript of press briefing slides.)

Reorienting Capabilities and Forces

The adjustments necessary for the US military and the DoD to counter a looming "Perfect Storm" of traditional, disruptive, irregular, and catastrophic challenges created by global climate change are multifaceted. The process will require that the defense establishment embrace a broader conception of security that incorporates environmental and climate concerns, focuses on the long-term, and emphasizes sustainability. The process will also require that all activities using US instruments of power be unified to create sustainable security by peacefully spreading democracy, encouraging economic cooperation, and leveraging the cooperative functions of international organizations. Sustainable security for the United States and every state in the international system is possible, in spite of the challenges posed by global warming. It does not require a hegemon, seeking empire, to create sustainable security. It does not require a superpower to placate the power of anarchy and security dilemmas. It requires US foresight, planning, and leadership to develop a sustainable security strategy.

First, a sustainable security strategy must be based on clear definitions of the critical elements of sustainability. The strategy should focus on enhancing human well-being as a national and international security objective. Specifically, human well-being must encompass environmental security for all states, global application of the principles of ecological economics, and equal access to the resources for living, good health, and high-quality social relations.[132] However, sustainability alone lacks a system to foster social cohesion and drive the necessary political, economic, social, and environmental changes that will ease implementation of the elements of sustainability. The missing catalyst is the capability for political action or governance. Consequently, sustainable security requires combining two relatively new international relations theories that are approaching ideological status—the sustainability paradigm and democratic peace theory.[133]

A new national sustainable security strategy will buttress traditional precepts found in the *National Security Strategy 2006* of "freedom, democracy, and human dignity"[134] by recognizing the wisdom of acting within the inherent limits of our natural environment and the power of fully accountable free markets, and by acknowledging the innate right of all people to free, equitable, and secure lives. Sustainability has become "the tool for obtaining political consensus. Today there are no political alternatives to sustainable development,"[135] and all of these processes can be enabled by democratic regimes.

Specifically, the democratic peace theory has been called "the closest the field of international relations has come to producing an empirical law," and importantly, democracies themselves have been described as creating a " 'near-perfect' sufficient condition for peace."[136] Therefore, intertwining democracy, sustainability, and security processes will enable the United States to respond to the threat from global warming through strategies that mitigate environmental and climatic changes and encourage adaptation to the consequences. The response requires reshaping the defense enterprise around a sustainable security strategy.[137]

The US Army has been a leader in DoD efforts to incorporate sustainability concepts into security operations. In particular, the Army has created its own "triple bottom line" for sustainability based on the principles of "mission, community, and environment."[138] A similar civilian triple bottom line for sustainability of "economics, equity, and environment" (the "three Es") was the model for the Army's principles.[139]

The civilian "three Es" incorporate the "diverse, worldwide, multi-cultural, and multi-perspective" process that has been called the "sustainability revolution."[140] This broad approach offers the possibility for positive change both within and among societies in a context that does not pit opposing parties against each other in no-win situations.[141] Creativity, cooperation, and context are core issues in which the three Es operate and produce sustainability.

The environment portion of the three Es is built around three critical ecological subtenets. First, environmental sustainability requires a long-term perspective as opposed to a short-term view. Second, ecosystems are not separate entities but are linked to the larger biosphere system that secures and anchors human life, the essence of environmental security. Finally, ecosystems have built-in sustainability checks and balances that humans must be aware of at all times.[142]

Economic sustainability departs from neoclassical economic perspectives in several ways.[143] Most importantly, sustainable or ecological economics recognizes the significance of natural capital as being indispensable for human life.[144] Unfortunately, natural capital in the past has been treated as an unlimited common, free to all, and consequently, subject to overuse and abuse.[145] Whereas neoclassical economists consider sustainability to be a fad, ecological economists recognize the limits to a finite biosphere.[146]

The third subtenet of sustainability answers social, political, and environmental appeals for universal justice. A multilevel approach to sustainability is inherent in this concept. At the individual level, equitable

sustainability ensures that resources are fairly distributed; at the community level, sustainability encourages "cooperation and concern for one's neighbor"; and at the state level, sustainability places responsibility for an equivalent quality of life in the hands of just and fair governments.[147] Implicit in this argument is the assertion that the long-term viability and security of global society is predicated on the fair and balanced distribution of resources and power.

However, the Army's version of the triple bottom line and the civilian three Es need a few refinements if mitigation and adaptation to climate change and, eventually, sustainable security are to become feasible. Nevertheless, the Army's sustainability efforts can become a model for the effort to reshape the defense enterprise if defense leaders alter the bottom line to incorporate ecological economics, social/environmental equity, and environmental security.[148] In the new construct, the "mission" of the military would add providing sustainable security enabled by environmental security, ecological economics, and social/environmental equity blended with the democratic peace to traditional interest-based security concepts.

The Army's replacement of the economic principle with mission obscures one of the dominant factors involved in unsustainable, climate unfriendly processes in the United States and around the world. In the United States, the DoD is a power player in the economy and is responsible for the largest share of the national budget, with expenditures exceeding $500 billion per year. If sustainable ecological economic principles are not incorporated into DoD energy production, distribution, and consumption practices, the entire system for operating, training, and equipping US forces will be unsustainable. Energy production, distribution, and consumption processes are the lifeblood of national defense and are also some of the primary drivers of global warming. The DoD is the largest energy consumer in the US government, but less than 10 percent of the energy it uses comes from renewable sources. Consequently, reshaping the defense enterprise to prepare for the challenges anticipated from climate change will primarily revolve around making energy processes sustainable by applying ecological economic principles.

Energy processes within the DoD must become sustainable within natural, environmental, and climatic limits. In essence, current DoD energy processes must evolve toward those that are carbon free, climate friendly, and environmentally benign if US national security is to become sustainable. Unfortunately, current sustainability efforts—such as complying

with environmental regulations, purchasing more green energy, and developing and deploying more-energy-efficient combat systems—have only been partially successful.[149] The department must do more to lengthen product/system lifetimes, reduce resource throughput, increase the use of renewable energy, decrease or capture greenhouse gas emissions, apply true ecological cost accounting procedures, and leverage DoD procurement policies as part of an integrated sustainable security strategy.

The DoD must integrate processes that increase the lifetimes of military products and combat systems so that they are more durable, thus decreasing energy and resource consumption rates.[150] Military equipment or services leased from providers, responsible for maintaining, reclaiming, and recycling equipment at the end of its lifespan would optimize cradle-to-cradle processes.[151] Leasing products and services can also reduce ownership costs associated with military systems, facilities, and operations. Leasing will allow the DoD to stipulate that the production of products and services are at least carbon neutral and, thus, climate friendly.

The resource base (primarily fossil fuels and minerals) of the US economy is finite, as is the global base. Decreasing the total resource throughput in the DoD economy and overall in the US economy has multiple benefits. Reducing resource throughput would diminish the total ecological and atmospheric footprint from resource extraction, energy use, and pollution. Concurrently, reduction will encourage development of creative and innovative efficiency, conservation, and carbon-neutral solutions to production, distribution, and consumption challenges.

As mentioned before, the DoD is the single largest energy consumer in the United States; numerous opportunities currently exist to reduce demand, incorporate renewable energy technologies, and mitigate negative environmental side effects (air, land, and water pollution).[152] Specifically, new solar, wind, geothermal, and biomass energy technologies have the potential to answer the call to reduce ecological flows while serving unique DoD needs. Solar and wind energy production rely on renewable resources, require no additional fuels, create no pollution, are transportable, and can be installed close to the power consumer.[153] Thus, these alternatives are perfect for mobile, agile military forces. The US Air Force leads all federal agencies in purchasing renewable sources of energy, buying over 40 percent of all green energy purchased by the federal government.[154] However, current purchases of green energy are part of a less focused plan to reduce energy consumption. Purchasing green energy should be part

of a wide-ranging sustainable security strategy that reduces emissions and resource throughput force-wide.

Climate specialists and ecological economists would recommend the DoD use the most advanced building designs, equipment, and appliances that reduce energy consumption, resources use, and emissions. The new, environmentally friendly designs and processes also improve working conditions and worker performance. Purchases or leases from green manufacturers also create negligible or even zero waste streams and toxic materials and employ the most energy-efficient processes.[155] All DoD power plants should implement carbon capture and storage procedures and consume renewable biomass for fuel whenever possible.[156] In addition, all DoD military ranges should begin a process to reforest deforested areas and replenish degraded soils.[157] These processes will limit the release of greenhouse gases, capture carbon, and reduce dependence on nonrenewable fossil fuels. If the DoD reduces its dependency on fossil fuels, billions of dollars in subsidies paid to fossil fuel companies will become available for other defense-related purposes. The savings could spur development of more renewable, climate-benign energy sources like solar, wind, and biomass.[158] Again, applying true cost accounting standards and using energy-efficient vehicles and processes can increase overall sustainability while maintaining current security capabilities.

One direct method that can reduce resource flow (extraction, consumption, production, or reuse) and deleterious climate changes is to tax the DoD on the amount of resources and energy used, waste created, or pollution produced. The process of shifting taxes away from income toward environmentally destructive processes has been endorsed by many economists.[159] This would create additional incentives for more resource efficiency and conservation. Using market forces to indicate the real environmental, climatic, economic, and social consequences of DoD activities is a profound way to "tell the ecological truth"[160] about national security efforts. Simply put, reducing energy throughput will free funds for more "teeth" and reduce the burdensome "tails" that inhibit agile deployment, maneuver, and engagement of forces.[161] If US forces become more self-sufficient in energy by utilizing local renewable sources (biomass, solar, wind, or geothermal), then the logistics requirements will be greatly reduced.

The procurement process is a major fulcrum for institutionalizing environmental sustainability and security change—specifically the DoD's substantial national and international purchasing leverage that can encourage

firms and industries to incorporate sustainable, climate-friendly principles into their production, distribution, and consumption activities. The leverage could be even more effective if the DoD became "an early adopter of innovative technologies and could stimulate others to follow."[162] Transportation is another activity that produces substantial greenhouse gases and is an inviting target where the department can leverage its procurement muscle.

The DoD should aggressively develop and purchase highly fuel efficient vehicles, ships, and planes.[163] Current testing of hybrid, plug-in hybrid, and hydrogen vehicles and equipment by the services is a step in the right direction. Also, alternative fuel vehicles have been introduced into the department's vehicle fleet; however, purchases have been limited because of the relatively high initial costs of the vehicles and the lack of a support infrastructure.[164] Unfortunately, most of these efforts are piecemeal, uncoordinated, and not part of an overall plan to reduce emissions and resource throughput. The DoD's purchasing leverage and market economies of scale should be applied to these programs to reduce overall costs as part of a broad and encompassing sustainable security strategy. Additionally, the DoD should create performance metrics for energy use in general rather than just for transportation energy. Flexible policies, measures, and approaches that reduce energy use or emissions should be rewarded and inefficient energy efforts taxed.[165] Overall, this would reduce the environmental and climate footprint that the DoD creates, save taxpayer dollars, drive new innovations, sustain natural capital for future generations, and increase combat power. Sustainable change that would implement the elements of sustainability also involves the Army's triple-bottom-line principle of community.

The Army focuses on being "an active citizen within our communities as well as a good neighbor"[166] but does not overtly address the issue of equity. Sustaining security and mitigating climate change requires rebalancing national and international political, social, and environmental inequities. As a good neighbor, the DoD in general must work through democratic processes to eliminate discrimination, bigotry, and unequal distribution and use of resources and energy wherever the department operates, domestically and internationally. This equity principle especially applies to operations in other countries, and equity may be the unappreciated factor that exacerbates international conflict.[167]

Equitable treatment leads to constructive engagement. This should be a cornerstone for security, stability, transition, and reconstruction (SSTR) operations. Importantly, focusing the combatant commander's Theater Security Cooperation Plans (TSCP) on equitable mitigation and adaptation processes will build host-nation capacities, promote stability, and ensure greater trust and cooperation.[168] Trust and cooperation can generate goodwill towards the United States, a vital element of current security cooperation plans and a central counter to global terrorist operations.[169] Equity is also at the heart of the climate change challenge.

The powerful influence of equity in global climate change negotiations has been widely studied.[170] The disequilibrium between the most vulnerable states and the least vulnerable states can be framed using many different qualifiers.[171] For example, the climate change discussions often break down into conflict between less vulnerable, rich, developed states that are most responsible for climate change and the very vulnerable, poor, less developed states that have little responsibility for global warming. Also, perceptions of the developed states as "Western," "colonial," "capitalist," "Northern," or "first tier" continue to infuse the climate debate with ideologies, passions, and assumptions seen through the lens of political history.[172] In particular, less developed states argue that they must have help to cope with global warming and its consequences, and yet many of these states are wary of US or Western diplomatic initiatives they suspect as covert attempts at exploitation and subjugation.[173] Nevertheless, an opportunity exists in the form of technology transfers and economic assistance to help less developed countries field cleaner sources of energy and transportation that produce little or no greenhouse gases.[174]

Just how urgent these transfers/assistance needs are is exemplified by the question of Malawi's minister of forestry, fisheries, and environmental affairs at the 1997 Kyoto Conference: "How can we devote our precious resources toward reducing emissions when we are struggling every day just to feed, clothe, and house our citizens?"[175] As a result, many policy makers believe that climate change is the greatest challenge to North-South cooperation the world has ever seen.[176] Strengthening capacity, stability, and equity within vulnerable states is a tremendous opportunity for the DoD to build positive, cooperative relationships, similar to what occurred after the 2005 tsunami in Southeast Asia.[177] Unfortunately, many developing countries suffer from internal resource distribution inequalities that are sources for popular grievances that cause nonviolent and violent conflict

and stimulate terrorism.[178] Fair, equitable, respectful treatment of allies and enemies are core values of American forces and are essential for victory in the war against terror and for the creation of long-term security and sustainability.

The DoD's existing approach to the natural environment is shallow and unremarkable. DoD policies reflect perceptions of environmental issues more in the realm of pollution prevention, toxic waste cleanup, base closures, and worker safety.[179] This approach lacks concentrated research into the relationships between environmental/climatic change and conflict and into how to sustain environmental security. Comprehending these processes requires investigating how altering environmental and atmospheric conditions creates environmental deprivation, which can then lead to insecurity and threats to US national security and interests.[180] Researchers must also examine the historical roots of the "pervasive conflict and security implications of complex nature-society relationships."[181] In essence, comprehending how to secure the environment from catastrophic change is a vital national interest.

First, the environmental security of military areas of operations (AOR) and the consequences of DoD operations on the local environment must be understood and planned for, and all negative environmental and atmospheric results eliminated or mitigated. The negative economic externalities of production and consumption in the form of pollution, waste, and climatic and environmental degradation also have to be incorporated into economic and mission-oriented accounting procedures to determine the actual bottom line before acting on procurement and operational decisions.[182] Specifically, combatant commanders' TSCPs should identify in an AOR who controls access to water, food, and energy. Also, plans must account for the basic environmental context surrounding the water, food, and energy situation, with an eye toward developing ways to mitigate or improve basic environmental conditions. These efforts will build trust, cooperation, partnership, and goodwill. Additionally, these activities will improve host-nation capacity and capability to deal with climate change and other national security threats.[183]

Second, the DoD must accomplish a holistic, futuristic, threat-based, causation-oriented, proactive, and ethical examination of environment-security linkages.[184] This involves working through domestic and international climate change/environmental regimes to create partnerships that reduce emissions, resource use, and environmental degradation.[185]

The goal should be to enhance sustainable security—defined as providing for security in a manner that at the very least does not diminish or compromise, and at very best actually enhances, an environmentally, socially, and economically sustainable quality of life for future generations worldwide.[186] The military/civilian force needed to accomplish this goal should be a "self-contained, self-sufficient, full-service enterprise capable of being projected over great distances and sustained for long periods of time to deal effectively with a full range of complex emergencies (on their own terms)."[187] Recent environmental security research[188] has made vital contributions to our understanding of environment-security issues, globalization ramifications, and transnational security threats, but more research is still needed into the threat, risks, and vulnerabilities created by climate change.[189]

The real bottom line is that the DoD must become the leader—the driving force within the United States and globally—in creating a sustainable security strategy. The strategy should be based on ecological economic principles, social/environmental justice tenets, and environmental security concepts that are interwoven with the principles of democratic peace. The development of a twenty-first-century force capable of executing a sustainable security strategy is the next challenge, and it will definitely require unity of effort.[190]

Achieving Unity of Effort

The United States, and in particular the DoD, cannot prevent climate-induced catastrophes alone. Successful mitigation and adaptation require integration of all instruments of power and greater cooperation between the United States and all germane international organizations and states. In particular, interagency efforts must expand information collection capabilities to plan and conduct climatic and environmental SSTR operations. Also, the US government must create the concepts and doctrine for a sustainable security initiative that expands security obligations beyond traditional state-centric security issues into economic, environmental, technological, and social domains. The international consequences of climate change should be a focal point. In particular, the global degradation of natural ecosystems such as forests, soils, oceans, freshwater systems, and anthropogenic processes (e.g., resource/energy procurement and consumption) have to be considered when planning, synchronizing, and executing sustainable security policies. Additionally, the DoD should have

more latitude in building mechanisms for developing, training, equipping, and advising host-nation sustainable security forces. These mechanisms must be culturally, environmentally, economically, and politically specific to the host nation.

A prime policy vehicle for sustainable security against climate change must be the development of national sustainable security planning guidance and a national sustainable homeland security plan. A key enabler for these policies will be the creation of a sustainable security corps of military and civilian professionals, trained to respond to security, climate, and environmental challenges. In addition, the US government and the DoD must "overhaul traditional foreign assistance and export control activities and laws"[191] with a new focus toward facilitating sustainable security. A critical buttress to policy development and the study of climate change/sustainable security could be the creation of a national sustainable security university.[192]

Generally, the DoD must "transform itself into an enterprise whose organizations and processes support . . . agile"[193] sustainable security forces that can conduct operations without degradation to the environment, economy, or society. These forces must also be able to work with other states to "build the capacity and resiliency to better manage climate impacts."[194] Management processes within the DoD must also shift from a threat-based approach to a capabilities-based approach.[195] These capabilities must sustain national security against the threats created by global warming and by the unsustainable resource and energy consumption processes currently used within the DoD. The key to any transformation within the DoD are people.

The strength of the DoD has always been the high quality and dedication of the personnel who serve the United States. To increase their capabilities to address the challenges created by climate change, department members must improve their language proficiencies, cultural knowledge, and environmental awareness. Today, the stress on the force is enormous, and if that stress is to be effectively managed, the whole force must be organized, trained, and equipped for the fight against global warming and for the mission of contributing to sustainable security. If the whole force is to be brought to bear, the Active/Reserve component mix and civilian/contractor workforce must be rebalanced, the Reserve component must become more operationally competent, and, overall, the skill sets necessary to build sustainable security must be identified, trained, and institutionalized.[196]

The future forces of sustainable security will have to be shaped and reshaped to counter an ever-changing strategic environment. Sustainable security forces must be ready for both "steady-state and surge operations"[197] in response to climate-induced traditional, irregular, disruptive, and catastrophic threats. For example, these forces must be able to respond quickly to conventional state-on-state security challenges induced by societal, political, economic, environmental, or climatic pressures. Simultaneously, additional sustainable security forces must be prepared to provide flexible deterrence to or to respond to abrupt environmental changes, failed states, insecurity entrepreneurs, or even terrorists who see climate-mitigated chaos as an opportunity for aggression or coercion.[198] In sum, the new breed of US defense forces should be able to react to a variety of security, climate, and environmental challenges flexibly, rapidly, and sustainably. Democracy is the catalyst that will power the transformation and unify the efforts of US defense forces as well as the defense forces of other states. I do not mean a plain vanilla, Western-style democracy, but a new form of "green democracy" that supports the three pillars of sustainability: environmental security, ecological economics, and social/environmental equity.

Green Democracy and Kant's Three Pillars

Immanuel Kant was the most famous scholar to propose three pillars supporting liberal progress toward peace, prosperity, and security: Kant's "republican constitutions" equate to today's representative democracies, "cosmopolitan law" is nowadays represented by global commerce and free trade, and Kant's "pacific union" corresponds to modern international law and organization.[199] Scholars have investigated the pillars for relevance and accuracy and have slightly modified Kant's concepts for modern application. Consequently, a "virtuous" triangular relationship was identified in which democracy, economic interdependence, and international organizations interact to enable, enhance, and increase peaceful relations, security, and nonviolent conflict resolution globally.[200] These three liberal pillars, separately and especially synergistically, have enormous implications for sustainable security if integrated with the remodeled three Es of sustainability: environmental security, ecological economics, and environmental/social equity.[201]

Democratic processes and international organizations can implement the difficult, expansive, and complex policies needed to mitigate or adapt to global climate change. Democratic processes will ensure the necessary policies

are the will of the people, are transparent, and are perceived as legitimate. International organizations reduce transaction costs and uncertainty and provide a structure that can establish accountability and reliability, as well as ensure accurate, honest monitoring, verification, compliance, and enforcement of climate change and sustainability agreements. Free, open, and competitive trade ensures supply and demand processes are applied to a greenhouse gas emissions trading or tax regime to generate the most cost-effective and cost-efficient prices. Additionally, free trade should induce technological innovation and diffusion of climate-friendly, resource-conserving products and services.

Democracy will be the driving political ideology required to achieve sustainable security. Democratic ideals account for pluralistic consent, openness, inclusiveness, and legitimacy. International organizations will be the framework and foundation for efforts to institutionalize equitable reconciliation among people and between people and nature. Specifically, free trade and the market represent the economic vehicles used to transform, improve, and diffuse policies and programs required for long-term maintenance of natural and human-made capital. Importantly, the equitable, effective, and sustainable application of the Kantian principles represent the best hope for countering global climate change and ensuring sustainable security. In this "virtuous circle" all of the actors, concepts, and processes align, preserving the freedom, economic well-being, progress, and equity of natural ecosystems and human civilization, using sustainable security as the overarching principle (see fig. 2).[202]

Conclusions

"The increasing risks from climate change should be addressed now because they will almost certainly get worse if we delay."[203] The DoD can lead the efforts to address these risks. Because of its existing environmental footprint and because of the connections between traditional security and environmental security concepts, the DoD must show the way forward to sustainable security not only for the United States but also for other nations. The effort will require the DoD to increase environmental security efforts, to broadly apply ecological economic principles, and to inculcate equity considerations into all defense strategies. The templates into which these processes must be forged are the three pillars of the democratic peace theory.

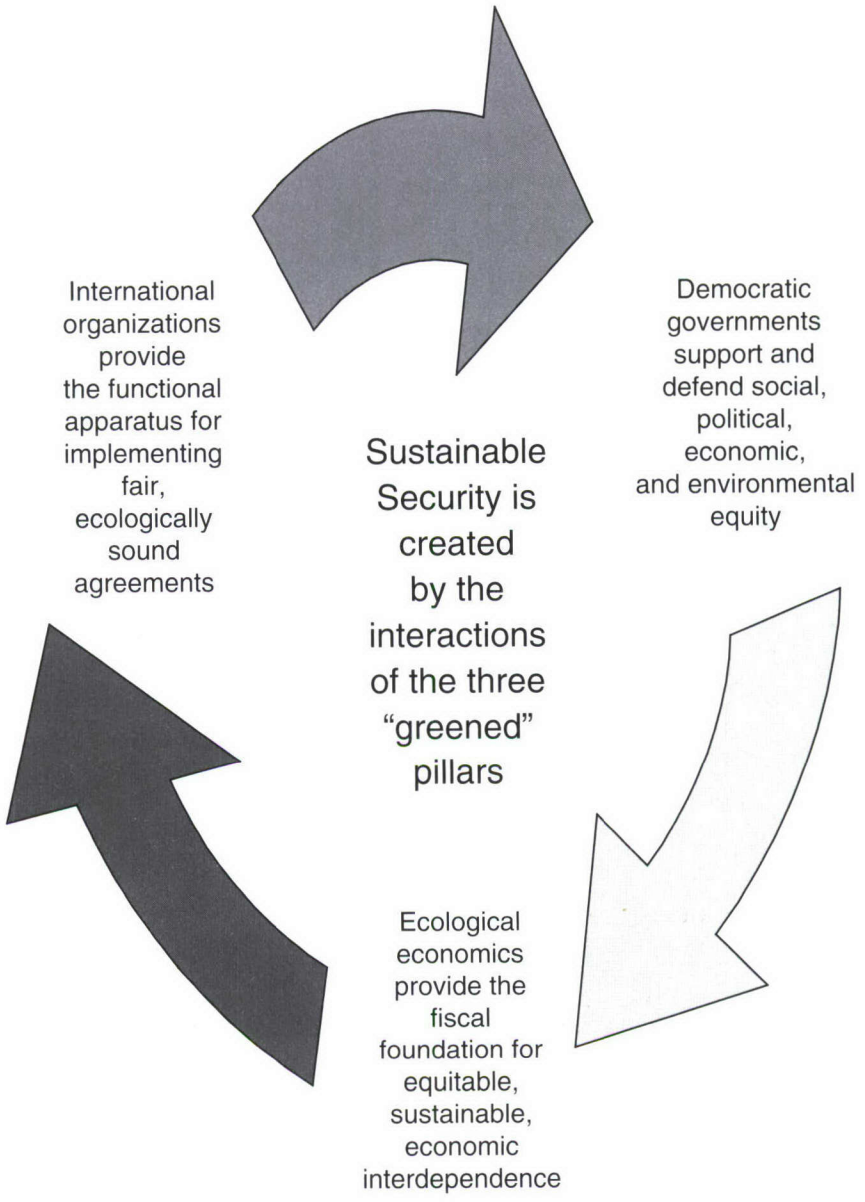

Figure 2. Sustainable Security. (John T. Ackerman's adaptation of fig. 1, "Climate Change Security Challenges: The Perfect Storm.")

The global forces of democracy must unite to counter climate change by leveraging the confidence and cooperation generating powers of free and fair elections, economic interdependence, and international organizations. These three bulwarks of peace will become sustainable by international acknowledgement and protection of the finite characteristics and resources

of the natural ecosystems that provision, regulate, support, and secure our future. In essence, the DoD must become "greener" in order to become leaner, agile, effective, and sustainable. The DoD must lead efforts to extend democracy, encourage ecologically sound economic interdependence, and promote international organizations that produce climate change solutions and expand global sustainable security. In sum, democracy, prosperity, and security cannot counter the long-term threat of climate change without environmental sustainability and social justice.[204] SSQ

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Do We Want to "Kill People and Break Things" in Africa?

A Historian's Thoughts on Africa Command

Robert Munson, Major, USAFR

A Common mantra within the military is that the mission is "to kill people and break things." The military is ultimately a heavily armed organization dedicated to the protection of the United States by killing enemies and destroying their means to wage war. This certainly played out many times during World Wars I and II, but what about Vietnam or even Iraq right now? Was Vietnam won by completing this mission? Can Iraq be won this way? While this slogan motivates the military, the task to "kill people and break things" is not the mission the US government gives the military most of the time.

Let me juxtapose this view with a poignant insight from my time in West Africa at the US Embassy in Abuja, Nigeria. In December 2001, during the military operations in Afghanistan, I worked in the Office of Defense Cooperation. Besides the military cooperation aspects of my job, I oversaw the completion of two humanitarian assistance projects started under my predecessors. One of these projects entailed building a small extension to a maternity clinic run by the Catholic Church on the outskirts of Abuja. When it came time to open the project, I helped the diocese of Abuja arrange a large grand-opening celebration with the local archbishop as one of the speakers. At the end of his speech, the archbishop grabbed not only the audience's attention but mine as well when he explained how he had never thought the US military "did anything except bomb people. I now know you also build clinics to help people."

Break things or help? This is a significant question to consider in light of the formation of the new Africa Command (AFRICOM). President Bush

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has given Secretary of Defense Robert Gates the responsibility for creating the new command. Gen William E. Ward has already been named the first commander, and AFRICOM should be fully operational as a unified command by October 2008. Break things or help? These two views on the mission of the US military must ultimately agree on one all-encompassing goal—the new organization should, in all cases, support the attainment of US foreign policy. The archbishop's view illustrates how US policy will be better served by a new AFRICOM, which is based on multilateral operations with the African conditions in mind rather than relying on the long-standing, somewhat erroneous view of the US military as an armed instrument only to wage the big wars. To support these multilateral operations, the command needs to truly be an interagency construct rather than a military organization with a few actors from other agencies included for effect. It is imperative that the policymakers recognize this and shift the organization's emphasis during the initial stages of AFRICOM's development before it becomes a solidified military organization with a life of its own—hence, on a path not easily altered.

Why? and How?

The two important questions that need to be answered are "why" and "how" the complete organization should be created and structured. From the beginning, the goal should be to establish an organization that not only supports American foreign policy but that also takes into consideration the unique African conditions. We cannot simply adapt a structure or method of operations from another part of the world with minimal alterations (e.g., recreating European Command or Pacific Command) without looking at regional history, culture, and diversity. Only then can we propose a coherent, logical structure.

Why do we need an AFRICOM? The simple answer is "to support American policy in Africa." US African policy, across the government, has been disjointed in the past due to the fact that few officials in the US government felt the continent was strategically important. While this may change in the future, we should not anticipate a great transformation of policy. Such a transformation would mean that the United States would shift its emphasis away from the traditional ties with Europe, the growing ties to Asia, and the conflicts in the Middle East. Since this is not likely to happen, the best we can hope for is that Africa would be an important element within the realm

of *expanded* American interest abroad. Certainly an AFRICOM that coordinates the *military* policy across the continent is valuable, but this is only one small element of the whole US interaction with Africa.

In the March 2006 *National Security Strategy*, President Bush emphasizes that in Africa "our strategy is to promote economic development and the expansion of effective, democratic governance so that African states can take the lead in addressing African challenges."[1] These goals rest on effective interaction through many elements of foreign policy, not just the military. African countries that are democratic and economically prosperous will not require as much security assistance and will make better American partners when we need support, political or otherwise. Thus, AFRICOM's sole concentration on Africa should help weave many disparate elements of US foreign policy into one more-coherent package, but this is only possible when AFRICOM's structure includes all important elements of this policy.[2]

How do we establish an AFRICOM? The most important issue here is consideration of current and future financial means. The whole US government has a limited budget, and a new command in a less strategically important area of the world (at least from the American standpoint) would not likely be any different. The importance of Africa will likely fluctuate based on the policies of the day, but for consistency and planning purposes, we should make the realistic assumption that financial means will be limited. Therefore, it will be imperative to maximize efficiency and cooperation with other nations. These would include our European allies and our historically close friends like Senegal and Kenya, as well as the regional powers of Nigeria and South Africa, which quite consciously follow their own interests.

With these two facts in mind, I would propose two principles (or "realities") on which AFRICOM should be structured:

> *Principle 1*: American interests and efforts must coincide with those of our traditional allies and partners in Africa.
>
> *Principle 2*: The military effort must be integrated with the political and developmental efforts across the continent.

In general, the second principle emerges from the first based upon the realistic assumption of constrained financial resources. This assumption is especially valuable for it forces the new command to work synergistically within the US government and with foreign partners.

Interagency Command

With these two principles in mind, my first proposal is for AFRICOM to be established from the beginning not as a military command with a few nonmilitary trappings but as a *true interagency command.* This command would have three equal main components: the military, a political element, and a section devoted to development (see figure). Despite the military title of "command" and the current focus of the secretary of defense on creating AFRICOM, we must refocus the effort to include all important elements of foreign policy equally. If there were a better word to replace "command" in AFRICOM, it should emphasize the nonmilitary missions and deemphasize the military aspects. Perhaps one should begin with the organizational model of an embassy rather than a military organization! While this may not be easy at this stage of the game, congressional or presidential action could enable the formation of a new type of organization with a larger or even dominant civilian role. Higher-level action is imperative sooner rather than later, for once the command's bureaucracy is in place, changing the structure will become very difficult, if not impossible.[3]

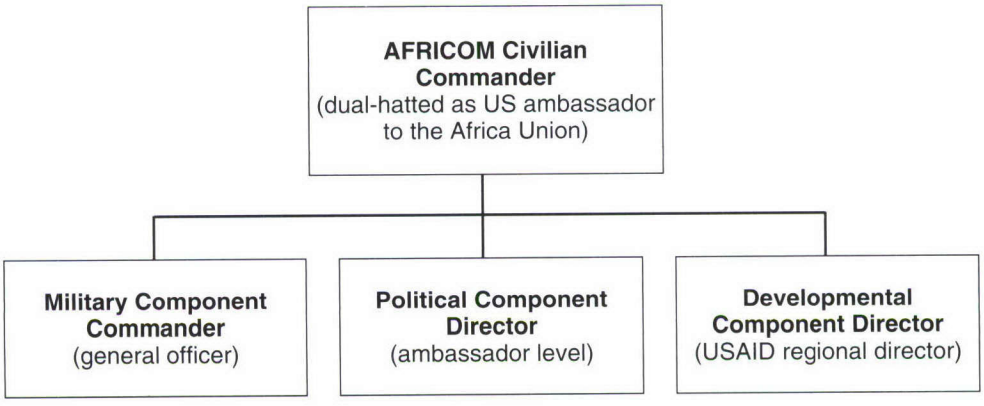

Figure. Proposed AFRICOM Organization.

Within the AFRICOM structure, other offices that deal with such issues as trade, legal, or environmental cooperation will likely be included, but at a lower organizational level than the three main branches of military, political, and developmental. For example, the emphasis on business relationships (e.g., in the guise of Department of Commerce attachés) would fit well under the umbrella of the developmental organization. The private interests would buttress development and expand it into many sectors that

the government cannot hope to enter with its limited means. Similarly, an organization such as the Environmental Protection Agency working within the developmental component would be able to assist with environmental problems accompanying African industrial development.

Ultimately, the military component must understand that it supports the political goals in US foreign policy, and in AFRICOM these goals (referring to Principle 1 above) will likely be tempered and shaped by those with whom we work. For example, fighting terrorism is one of our top priorities, but most African countries see terrorism as less pressing, and many do not see it as an important issue—in most instances development trumps everything else. Although the developmental efforts of the US government currently fall under the State Department in the guise of the US Agency for International Development (USAID), one must consider giving USAID's efforts equal footing with the political efforts. This move would give USAID its full significance in a place where it can achieve maximum impact and do the most good—for the African countries and thus, by extension, for US policy.

A second example concerns the US need for resources. The United States is concerned about access to raw materials in Africa, particularly oil. This is a hot-button topic for the rest of the world; much of the world believes we are in Iraq only for the oil. Unfortunately, US politicians have not done much to allay this accusation. Resources are important, but most governments—regardless of political persuasion—will continue to sell to the highest bidder. This is especially true with resources available from multiple suppliers. Thus, we can regard access to oil and other natural resources as merely a second-tier priority and not emphasize it. On the other hand, African countries are generally interested in guaranteed markets for their agricultural products, something we can potentially assist with, but outside the military structure.

Based upon and expanding from the two stated principles above, six factors clearly call for this proposed macro-organization of AFRICOM: budget, access, trust, operations, example, and history. Each of these factors clearly argues for a true interagency command synergistically combining the strengths of each of the three main elements—military, political, and developmental.

1. *Budget.* This will be constrained; thus, all attempts should be made to make operations as synergistic as possible (Principle 1). We must be ready to work with allies more than in name only in actual operations, basing, and planning. On one hand, we must coordinate our activities

with NATO allies traditionally active in Africa. This would primarily be the French and, to a lesser extent, the British, along with other allied European nations increasingly devoting resources and manpower to the continent. In general, many American interests in Africa, such as promoting stability and democracy while providing emergency humanitarian assistance, parallel those of European nations. On the other hand, we should work closely with our African partners, accepting their assistance and guidance at appropriate times. This will not only help to conserve our resources, but working with our African partners will also help us to assist them in furthering their own interests.

A good example here would be US cooperation that facilitates peacekeeping operations (PKO). As in many past PKOs under the United Nations or other organizations, African nations tend to be willing to contribute troops but need assistance with logistics—equipment, supplies, and transportation. The United States could potentially save money by getting African nations to contribute in support of US-favored PKOs, but only if we reciprocate by assisting in PKOs that African nations would like to undertake themselves but are not as important in US foreign policy. If we look back at the West African peacekeeping operations in Liberia beginning in 1990, the US military directly assisted in airlifting troops into Liberia only in 1997 in preparation for the elections.[4] Arguably, the West African peacekeepers could have been more effective had they had more direct access to reliable logistical support.

An interagency command could assist budgetary efforts by combining the short-term military efforts with the long-term efforts of other US government organizations. In the realm of peacekeeping, USAID has often been involved in post-conflict demobilization and reintegration, something which naturally follows from the PKOs and would more efficiently use funds if all the stages, from initial deployment of troops to final reintegration of the combatants, were planned together.

2. *Access.* For any operation we need access to people, facilities, and partners' willingness. The French have established air bases in central and western Africa that they have used in the past; we could likely use these if we would cooperate with the French. Furthermore, access to ports, other airports, and additional infrastructure would be eased when we work alongside our African partners in helping to solve their problems. An America which appears to be a neo-imperial power will not be greeted as

warmly or willingly (except with large payments—see budget point above) as someone who will help them solve what they see as their problems.

Additionally, working closely with the French or other partners would give us access to networks that we might normally find difficult to join. The French, over the years, have developed personal networks in French-speaking Africa, which could be useful in the achievement of American foreign policy goals if we partner with them. For example, the various American antiterrorism operations in the Sahel have been fairly effective in cooperation with the local governments, but their effectiveness would likely have been increased had we had long-term relationships with the African partners and the French, all of whom have been in that region much longer than the United States has even shown interest. Similarly, easy access to nonmilitary organizations, specifically nongovernmental organizations, would likely be eased with significant civilian participation in the command.

3. *Trust.* Not only will frequent contacts over long periods of time increase interpersonal trust and, by extension, trust of US motives in Africa, but an organization that is not purely military will inspire trust by bringing different American viewpoints and capabilities to the table. The US military is known for coming in, solving a problem, and then leaving. Numerous American military operations in Africa have been short-term and only partially solved the problems. For example, in Somalia the US military quickly left after a small number of US Army Rangers were killed in October 1993. In 1994 the US military helped evacuate Western nationals from Rwanda but withdrew rather than intervening in the genocide. In 2003 American Marines briefly landed in Liberia to provide security but left after only two months. The American military, while effective at the designated mission, provided little lasting assistance to the local people.

If we look at the period from 2001 to the present, the US European Command (EUCOM) conducted 14 exercises and seven different named operations in Africa to support African nations.[5] Six of the exercises were short-term medical assistance missions (e.g., MEDFLAG), which provided needed assistance but ended after a short period of time—hardly the basis for establishing relationships for long-term cooperation. Similarly, EUCOM's two earthquake relief operations (to Algeria and Morocco) certainly assisted people but established no long-term contacts. On the other side of the coin, the number of military-to-military training operations (two) and exercises (six) provided a limited amount of contact, which would neither

allow relationships to fully develop nor continue over time, except in very limited circumstances. EUCOM similarly has a number of ongoing efforts with African nations (such as humanitarian assistance projects and humanitarian mine action, the Trans-Sahara Counterterrorism Initiative, and other basic support to regional organizations), providing limited additional contact. One could argue that a military-dominated AFRICOM might expand these efforts, but with the budget constraints this would be unlikely.

Not surprisingly, officials in many countries are inherently suspicious of American military capabilities. We have the military capability to do much, ranging all the way from the large land operations of the first Gulf War and Operation Iraqi Freedom to precision strikes launched from B-2s flying halfway around the world, to small, covert operations. While we may not have the desire to intervene in African nations in such ways, a purely military organization brings up images of past US operations. For example, many Africans know our history of overt military interventions in Latin America and the less overt governmental changes supported by the United States, such as the US-supported coup in Iran in 1953 that brought the Shah to power. Similarly, US military capabilities for surveillance (i.e., spying) are publicly known and raise eyebrows with the suspicion that they might be directed at our African partners. In his essay, Dr. Abel Esterhuyse echoes the very real fear within some circles in Africa that the creation of AFRICOM could signal the militarization of American policy in Africa and emphasizes the charge that the United States is using the war on terror to get access to African resources.[6] These are two fears that a military organization cannot easily dispel.

Conversely, the civilian State Department and USAID are known more for their long-term focus and the training of their personnel to work with foreign partners, including the acquisition of better language skills, than those within the military. Both of these agencies are comfortable in taking time to build personal relationships with other officials, and they tend to remain in the region longer, maintaining these personal bonds and facilitating work between nations on a civilian basis. The military can capitalize upon the long-term perspective of the other American elements to gain and maintain the trust of its African partners and expand contacts from just military-to-military (Principle 2). In many countries, the military is not always very popular due to the history of coups, military rule, or civil wars (e.g., Congo, Uganda, and Liberia), so US-African operations will

often be met with skepticism without the trust generated by the civilian US officials working alongside.

4. *Operations.* Historically, very few US operations in Africa have been strictly force-on-force fighting but instead have been operations of mixed character, such as humanitarian assistance, noncombatant evacuations, or training (as discussed above for the period since 2001). All of these mixed operations have a significant political and developmental component to them; thus, the military needs to work with other sectors of the US government and also diverse sectors of our partners' governments (Principle 2). An AFRICOM built to integrate the three American components will maintain coherency in the operations and serve the interests of the local African partners without much more cost on our part. Furthermore, the military can, and often does, function as an enabler of the other two elements of American power—politics and development (especially with, but not limited to, airlift). Ultimately, the military's structure must be built to support American foreign policy, not just to operate autonomously.

Somalia in 1993–94 provides a good example to support this point. Operation Restore Hope began as a humanitarian assistance mission, carried out by the military, which then became a military mission of hunting down clan leaders. The military mission failed, and President Clinton essentially cancelled the whole mission. Understanding the situation better and being more willing to talk to the clan leaders, both diplomatic tasks, might have prevented the escalation of military violence, which led to eventual mission failure.

5. *Example.* On a continent with a history of military coups, we do not want to demonstrate that a pure or overwhelmingly military structure in Africa can work alone (Principle 2). An American military organization locally subordinated to a civilian boss and working with civilian organizations provides an American example of the place of the military in society and would help to discourage military interventions. On the more practical side, when the US military's operations are closely coordinated with the American political and developmental components, the span of contact within the partner African government will be wider, strengthening the other governments against the power of their own militaries.

During the 1960s and '70s, many within Africa and abroad saw the military as a modernizing force in African society. Thus, segments of African populations supported military coups, and the United States often looked away when they occurred. Subsequently, the militaries proved not to be

as capable at governing as believed. Currently, the US military is very proficient at accomplishing even civilian taskings (e.g., policing, distributing food assistance, providing medical services, advising governments). Despite this capability, we do not want to encourage African militaries to believe they can do everything alone and thus potentially encourage political intervention. An AFRICOM with a civilian leadership will show the proper place of the US military in society.

6. *History*. Unlike in Europe after World War II where the United States was establishing a command (the eventual EUCOM) in a defeated Germany, the United States will be attempting to work with many proud, independent African governments. To successfully base US forces in Africa, the United States must approach the Africans as equals and work with them so that the relationship is mutually beneficial (Principle 1). The United States cannot be seen as an occupying power as the colonial era still remains fresh in the minds of many Africans. Additionally, the images of Operation Iraqi Freedom and the ongoing counterinsurgency in Iraq will remain relevant in Africa for a long time, illustrating suspected American colonial intentions. Thus, the best plan combines political and developmental operations that deemphasize the military component.

We must remember that struggles and wars of liberation remain fresh in the minds of many African leaders, and the United States often stood on the "wrong side" of the conflict. During the Cold War, the United States supported the white-majority government in South Africa, afraid that the African National Congress (ANC) had communist sympathies. Now the democratically elected ANC is in power, and many within the party remember our support of the other side. Similarly, the United States supported Portugal in its ill-fated attempt to quash the liberation struggles in Mozambique and Angola and then supported unpopular but "anticommunist" insurgent movements: RENAMO in Mozambique and UNITA in Angola. The generations of African leaders are changing, but the United States is remembered more as a supporter of the colonial status quo rather than as an anticolonial power.

Esterhuyse makes the point that the US creation of AFRICOM "is driven by negative considerations from Africa rather than by positive interests," which includes a potentially renewed great-power competition in Africa between the United States and China, harkening back to the Cold War days.[7] This fear just reemphasizes the importance of an AFRICOM with the emphasis across all three pillars—military, political, and developmental.

Competition between the United States and China in the developmental (and perhaps political) realms could be used by African nations to advance their own aspirations and improve their economies, while military competition would likely just lead to militarization and destruction as during the Cold War proxy conflicts.

Location: Addis Ababa

Focusing on the recent history of independent Africa, at least the headquarters of AFRICOM should be located in Addis Ababa, Ethiopia. Intra-African squabbles aside, this city has been the focus of the African pursuit of independence and unity. Ethiopia was never colonized, and the red, yellow, and green of the Ethiopian flag are recognized as the Pan-African colors. Addis Ababa best embodies the concept of "Africa" as a single continent with its own unique African interests. The African countries themselves chose this city as the headquarters of the Organization of African Unity in 1963 and its successor organization, the African Union (AU), at its establishment in 2001. American policy supports the regional and Pan-African efforts of the AU, including its attempts at peacekeeping.

On the practical side, relations between the United States and Ethiopia are good, which would help to ease establishment of a nascent headquarters. Certainly one could argue that the infrastructure in Ethiopia would not easily support a large command structure, but the headquarters does not necessarily have to be a large organization—only big enough to provide effective interaction with the African Union. Addis Ababa is already the location of many embassies; therefore, another embassy-sized structure would not place too much additional burden on this city.

The civilian commander of AFRICOM should be the US ambassador to the African Union. Not only is this diplomat already representing the United States at the continental level but, as discussed above, is also a civilian and would emphasize the American tradition of civilian control of the military. While the appointment of this diplomat to lead a partial military organization may call for congressional or presidential action and the change to US laws, it is hardly a new concept since both the president and the secretary of defense, the two top leaders of the military, are civilians.

While the headquarters of AFRICOM would be in Addis Ababa, the various diplomatic, military, and developmental subcomponents could be spread throughout the continent, closer to the more functional regional

groupings. All military subcomponents would necessarily be colocated with diplomatic and developmental elements, emphasizing cooperation and civilian oversight. At the lower levels, the military components would ideally be paired with countries where similar capabilities exist to encourage cooperation (Principle 1).

Taken as an example, the air subcomponent should be headquartered in a country with a robust capability to support American and partner operations, probably a country with its own operational air force. This headquarters could simply be a minimally-manned standby base like those in Eastern Europe or have a small number of permanently stationed aircraft. Above all else, the air subcomponent would need transport aircraft to best support the policies of the United States and its partners. Transport, instead of fighter or reconnaissance aircraft, would emphasize cooperative projects and deemphasize militarization. Needless to say, the number of American assets stationed in Africa would likely be very low at any time, but permanent basing of some sort would cement the US relationship with the African countries, signal our intention to remain involved over the long term, and enable the command to operate independently.

Expanding from this central hub, the air subcomponent should perhaps have representation in each regional area (i.e., West Africa in cooperation with the Economic Community of West African States [ECOWAS] or southern Africa working with the Southern African Development Community [SADC], etc.) to support partner operations. If the United States were to permanently base C-130 transport aircraft in Africa, it would make sense to station them with another air force operating the same aircraft. US and African personnel could share experience and training and assist each other during periods of high operations.[8] This would be valuable for both the US and African air forces. US forces could perhaps provide a greater quantity of equipment and higher technical proficiency, while the forces of the African nations would provide language skills, regional knowledge, and an enthusiasm for operating in the local area.

Conclusion

The formation of AFRICOM is currently underway, but as it evolves it must come out from under the purview of the secretary of defense (hence, a military-centric organization) and become a true interagency organization.

It will hopefully then be an organization that meets not only American needs but also those of our partners in Africa—a true multilateral effort.

What sort of perception of the United States do we want to give to Africa? In the spring of 2003 during military operations in Iraq, I was in Dar es Salaam, Tanzania, and talked to many regular Tanzanians while doing my own historical research.[9] One subject which often came up was the impending US military operations in Tanzania. Many believed the new, very spacious US Embassy under construction was meant to be a military base. While my observations were hardly scientific, I got the impression that many Tanzanians saw the United States as a potential threat. Tanzania is an area of the world where we would objectively have little reason to interfere. However, the Tanzanians from their perspective saw their country as, naturally, very important to the United States and a potential target! Policymakers and AFRICOM planners must never forget that popular consciousness and local perceptions will always overrule announcements and press releases.

As we move away from Operation Iraqi Freedom and the international perception of the United States as a unilateral actor, we should try to return to the American image produced after World War II. After this cataclysm, the world did not see the United States as a conquering behemoth, intent on imposing its views on the rest of the world, but instead as a country willing to work multilaterally to solve the world's problems. The United States earned this reputation through its participation in the establishment of many consultative and functional bodies with representation from many nations. Above all, the United Nations served as a beacon of hope, but so too did international financial institutions such as the World Bank and the International Monetary Fund, military alliances, and the Marshall Plan in Europe. The United States helped to establish many of these organizations to contain the Soviet Union; but through the often nonmilitary focus, it generated goodwill and achieved other-than-military objectives, thus advancing American security policy. For example, the Marshall Plan led to exactly the result we wanted—a stable, prosperous, democratic Western Europe. This prosperous Europe could, incidentally, support the United States in the security realm through NATO. While the situation is not quite the same in Africa today, our expanding relationship with African countries deserves the same dedication across the spectrum of the government so that it expands positively into the future. As the *National Strategy for Combating Terrorism* (September 2006) declares: "In the long run,

winning the War on Terror means winning the battle of ideas."[10] In this vein, we want the African countries to see the United States as coming to help, not to break things, for only in this way will the relationship grow and stay strong in the years ahead! SSQ

Notes

1. The White House, *The National Security Strategy of the United States of America* (Washington, DC: White House, March 2006), 37.

2. See Abel Esterhuyse, "The Iraqization of Africa? Looking at AFRICOM from a South African Perspective," pp. 111–30 of this issue. Esterhuyse looks at the realist perspective of the creation of AFRICOM. This perspective is key since policy makers usually sell new initiatives like AFRICOM to the American public based on how they will benefit the United States (e.g., the importance of Nigerian oil to the US economy). This is perhaps unavoidable, but we also must realize that military officials tend to share this realistic perspective. Thus, they will approach the construction of the new command to serve these ends and therefore emphasize the security issues.

3. I realize that this simple schematic will likely raise many more questions than it answers. Similar diplomatic posts in Europe, for example the US Mission to NATO and the US Mission to the European Union, already offer some insight into the possibilities and challenges this proposal for AFRICOM might face. Additionally, an important issue not discussed here includes AFRICOM's relationship to the various US embassies throughout Africa. These are all important questions to be addressed but do not detract from the argument here for a *true* interagency organization.

4. See the historical summary of US European Command operations at http://www.eucom.mil/english/Operations/history.asp.

5. Ibid.; and http://www.eucom.mil/english/Exercises/main.asp. Note: I have not counted the two 2002 noncombatant evacuation operations (Central African Republic and Côte d'Ivoire) since they are designed to rescue Americans and not to assist the African countries.

6. Esterhuyse, "Iraqization of Africa?" 111–30.

7. Ibid., 114.

8. The basing pattern here could mirror the experience gained in the USAF's "Total Force Initiative" in which the USAF stations various active duty, reserve, and Air National Guard units together. In this way, for example, the active duty units benefit from the experience resident in the reserve forces.

9. That I was doing historical research on a topic unrelated to military or defense issues is important since I did not initiate the conversations about the US military or US-Tanzanian relations.

10. Executive Office of the President, *National Strategy for Combating Terrorism* (Washington, DC: Office of Homeland Security, September 2006), 7.

The Iraqization of Africa?

Looking at AFRICOM from a South African Perspective

Abel Esterhuyse

Introduction

The South African government has openly expressed its opposition towards the creation of the US Africa Command (AFRICOM).[1] What's more, South Africa presents its position on AFRICOM as representative of the country as a whole, but particularly on behalf of a group of African countries—the Southern African Development Community (SADC)—which holds an aversive stance towards US plans in this regard.[2] This does not represent a radical change in South Africa's ruling African National Congress's (ANC) general policy stance towards the United States over the last 10 or more years. While this is not the place to dissect South Africa's policy towards the United States in general, it is important to ask critical questions about the legitimacy of the South African government's position—and that of some other African countries—towards AFRICOM. The discussion is an effort to examine some of the considerations that underpin this scepticism about US motives towards Africa.

From a military operational perspective, Africa presents a geographical challenge, especially for conventionally minded militaries with questionable success in fighting small wars. In the past, US policy and military communities implied sub-Saharan Africa when they referred to "Africa." North Africa (Algeria, Egypt, Libya, Morocco, and Tunisia) was treated as part of the Middle East and Europe rather than as part of Africa. American constituencies concerned with Africa tend to focus on sub-Saharan rather than on North Africa. This divide exists even in the minds of most Americans. Many Americans refer to

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themselves as "Afro-Americans" as if Euro-Africans or Arab-Africans do not exist, and as if Afro-Americans have closer ties with the African continent than their fellow Americans. The division between North and sub-Saharan Africa has created some problems for the US armed forces in recent years, especially in countries such as Chad and the war-torn Sudan that straddle the regional divide.[3] Within the context of this reality, it became increasingly difficult for the US armed forces to deal with Africa in its totality. The divide between North and sub-Saharan Africa made some geographical sense, to the extent that a desert is often more of an obstacle than even an ocean. In most cases, the Mediterranean represents an easier obstacle to negotiate that the Sahara.

Africa did not feature in the US military command structure until 1952, when several North African countries were added to the responsibilities of the US European Command because of their historic relationship with Europe. The rest of Africa was not included in any US command structure until 1960, when US concerns over growing Soviet influence in Africa led to the inclusion of sub-Saharan Africa in the Atlantic Command. In 1962 sub-Saharan Africa was given to Strike Command. When Strike Command was transformed into Readiness Command in 1971, its responsibility for Africa was resolved. In 1983, Cold War priorities led the Reagan administration to divide responsibility for Africa between three geographical commands—European Command, Central Command, and Pacific Command.[4] On 6 February 2007, the US president announced the formation of a US Africa Command as part of the Unified Command Plan.[5] AFRICOM is to be established by 30 September 2008. An initial operating capability would have been in place in Stuttgart, Germany, by August 2007, well before the official starting date. Of course, what the actual "operating capacity" will entail is subject to the advancements of the establishment of the command by that time.

Is This Something Mutually Beneficial?

There are a number of ways to think about the creation of AFRICOM. The most obvious would be to look at its creation from a realist perspective. Such a perspective accepts that the United States has vital and other interests in Africa to protect or extend. For the extension or protection of these interests, the US military needs to develop command, control, communications, computers, and intelligence (C^4I) and other capabilities to ensure military operational success on the African continent. In view of possible vital US

interests in Africa, the creation of AFRICOM would be of strategic importance to the United States, and it would not necessarily have to consult with Africa or anyone else about the creation of such a command. This would allow the United States the luxury of building and structuring the command according to its own needs. Of course, a realist approach is inherently unilateral, nationalistic, and competitive by nature, and there is a very real danger that it may be perceived as aggressiveness by the United States within Africa. In addition, realist thinking contains the risk that Africa may view the creation of AFRICOM as a potential threat to the extent that it may undermine US interests in Africa.

The truth is that there is doubt about US interests in Africa among African leaders.[6] Indeed, Africa is perhaps the only sizable inhabited geographical region that has not recently been considered as vital to US security interests. To state it bluntly, until very recently the United States had hardly any concrete, material interests in the continent.[7] This highlights the need to downplay the realist approach and for the United States, on the one hand, to be much more cautious in dealing with Africa and, on the other hand, to have a more consultative approach with Africa in the development of AFRICOM. This also requires the US polity and bureaucracy to cultivate support within the United States for the creation of AFRICOM. A more consultative approach is rooted in the notion that while clear identifiable interests provide policy with a solid foundation and coherence, a lack thereof normally leads to ambiguity, debate, and vulnerability to changing political moods.

For years, there have been discussions within the US Department of Defense about the merits of some kind of Africa Command.[8] By the middle of 2006, the previous secretary of defense, Donald Rumsfeld, established a planning team to advise him on requirements for establishing a new unified command for the African continent. He made a recommendation to President Bush, who then authorized the new command on the same day Rumsfeld left office.[9] During the announcement of the establishment of AFRICOM, the new secretary of defense, Robert M. Gates, outlined the function of the command as "oversee[ing] security cooperation, building partnership capability, defense support to non-military missions, and, if directed, military operations on the African continent."[10] Gates alleged that the command would enable the US military to have a more effective and integrated approach than the current command setup in which three geographical commands are responsible for Africa. He called this three-command structure an "outdated arrangement left over

from the Cold War."[11] Some scholars therefore argue that AFRICOM will shift US involvement in Africa from a reactive to a proactive commitment.[12]

The US government is facing increasing domestic and international pressure to play a more prominent role on the world's most troubled continent. The creation of AFRICOM received strong support from both parties in the US Congress, and there is an increase in interest groups lobbying for support for African countries in the United States.[13] Since the 1993 "Blackhawk Down" incident in which 18 US servicemen were killed, the US government in general has arguably resisted the pressures to provide tangible military support to peacekeeping or other missions in Africa. Two recent challenges were instrumental in drawing the attention of US politicians and bureaucrats to "the globe's most neglected region."[14] The first is the failed state of Somalia, which has a tradition of links to Islamic militants, such as al-Qaeda. The second is the crisis in Sudan, where UN figures estimate that more than 400,000 people have died from ethnic cleansing in the Darfur region.[15] The decision to create AFRICOM reflects—without any doubt—a rise in US national security interests on the continent.

There are numerous examples where the direct military involvement of a superpower in a particular region had been accepted because it was based on a mutually beneficial relationship. US involvement in Europe during the Cold War is the most obvious example. It is therefore important to distinguish between two sets of benefits. Firstly, there are the minor, almost secondary, benefits for Africa that may flow from the establishment of AFRICOM to serve primarily US security interests. Secondly, there are the geostrategic mutually beneficial payoffs for Africa and the United States in the creation of AFRICOM that should be clear from the outset. However, from an African perspective, this mutually beneficial relationship in the creation of AFRICOM is not apparent. Consequently, the US decision to create AFRICOM is saying more about its own fears and geostrategic position than about its interests in Africa. This particularly relates to US concerns about the growing Chinese involvement in Africa, the US war on terror, and the growing US need for oil from Africa. A more detailed analysis of these three considerations provides a clear indication that the US decision to create AFRICOM is driven by negative considerations from Africa rather than by positive interests in, or spin-offs for, Africa.

According to the independent global organization, Power and Interest News Report, Sino-African trade has risen from about $3 billion in 1995 to $55.5 billion in 2006.[16] On a macro level, there are increasing trade, de-

fense, and diplomatic relations between African countries and China. The economic and security support for the Mugabe regime is but one example in this regard, with China's investment in Sudan's oil industry and the cozy relationship with its regime as another.[17] These two examples are also a demonstration of what China is willing to do (or turn a blind eye to) in order to advance Chinese influence in Africa. The macro relations are augmented by interaction of a micro kind in the sense that almost every small town in the most remote places in Africa these days can boast about its Chinese shop! In 2006, for example, China hosted a conference in Beijing, which drew 43 African heads of state and representatives from five other African nations—more African leaders than would normally attend an African Union summit on the continent. The Chinese president toured Africa during February 2007 at the time of the announcement of the creation of AFRICOM. It was his third visit to Africa in as many years.

It may be true that China's policy motivations and intentions are typical of a large and growing superpower and that, because of this, the United States does not regard China's emerging interest in Africa as a security threat.[18] It may also be true that the United States does not have many interests in Africa. However, China is reemerging as a major economic, diplomatic, and military entity on the world scene, with a particular geostrategic interest in African resources and markets. The United States is obviously very much concerned about the growing interaction and cooperation between Africa and the "dragon with a heart of darkness."[19] China is obviously not very interested in encouraging democracy, good governance, and transparency on the African continent. Consequently, the recent agreements on defense, economic, technical, and other forms of cooperation between China and Zimbabwe will be under scrutiny in Washington.[20]

Though China is an alternative to US influence in Africa, the judgement is still out on the nature of Chinese involvement in Africa.[21] Africa's preference is saying as much about Africa as it is saying about China, and can most probably be linked to issues such as the militarized image of US foreign policy in Africa and the availability of Chinese support without too many attached labels. The US military has always been an important part of US foreign policy to the extent that the military is in some circles often seen as the leading US foreign policy agency. From this perspective, the creation of AFRICOM could be seen as an important first step in increasing US foreign policy presence and capabilities in Africa as a means to counterbalance growing Chinese influence. Steven Morrison, the

director of the Africa program at the Center for Strategic and International Studies, for example, argues that through the creation of AFRICOM, the United States is trying to gain a foothold on the continent for "intensifying competition with China, India and others for influence and for access" and because of "rising commitments with respect to global health in Africa."[22]

The world has changed dramatically since 9/11 and the rise of the threat of international terrorism in the West. However, in view of the strategic situation facing US forces and their allies in places like Afghanistan and Iraq, the strategic effectiveness of the war on terror and the strategic competence of those conducting the war are still in doubt. This doubt is linked to the question as to whether the Western world in general, and the United States in particular, is, indeed, more secure because of the war on terror thus far. In Africa, the creation of AFRICOM is seen as "the official arrival of America's 'global war on terror' on the African continent."[23] The United States is obviously looking towards Africa as a potential source of international terrorism. The intelligence communities of most Western countries are scanning the world—including Africa—for new international terrorist threats. African countries in general are uncomfortable about the possible conduct of both overt and covert US intelligence operations within their borders. Of course, the US government and its allies are also looking for coalition partners in the war on terror in Africa. The creation of AFRICOM will serve both purposes to the extent that it will provide easier access for the United States to Africa in the conduct of intelligence operations and the cultivation of strategic partners for the war on terror.

The bombing of the US embassies in Kenya and Tanzania serves as a stark reminder of the international terrorist threats that the United States is facing in and from Africa. The threat of international terrorism in Africa and its links with the al-Qaeda movement again came to the fore with the more recent suicide attacks in Algeria and Morocco.[24] The volatility of the African continent provides fertile breeding grounds for extremists, criminals, and, ultimately, international terrorists in terms of recruiting, training in uncontrolled areas, and providing a sanctuary from where they may operate. This volatility of the African continent is rooted in challenges such as extreme poverty, corruption, internal conflicts, border disputes, uncontrolled territorial waters and borders, warlords, weak internal security apparatuses, natural disasters, famine, lack of dependable water sources, and an underdeveloped infrastructure. It is easy to convince individuals to support terrorism against the West if they face a bleak future

in these kinds of environments when it is contrasted with the situation in most Western countries, in general, and the United States, in particular, using the old method of relative deprivation. However, it is extremely important to note that though poverty, instability, and volatility do not necessarily breed terrorists, nations with weak civil societies, poor law enforcement, and a weak judicial system are vulnerable to penetration and exploitation by international terrorist groups.[25]

It is the increasing US interest in African oil that underpins the often heard argument in Africa that the United States is using the war on terror as an excuse to get access to African resources.[26] It is true, however, that the attacks of 9/11 and the consequent wars in Afghanistan and Iraq had a definite impact on the relations between the United States and the Arab world. A recent report by retired US Army general Barry McCaffrey on the war in Iraq notes that the "disaster in Iraq will in all likelihood result in a widened regional struggle which will endanger America's strategic interests (oil) in the Mid-east [*sic*] for a generation."[27] The slumbering tensions between the United States and Iran are a manifestation of this growing regional struggle. Israel's invasion of Lebanon in 2006 should also be evaluated against what had happened in Iraq and the change in the balance of power in the Middle East brought about by it. Clearly, a general situation of distrust and suspicion has been created between the Arab world and the United States—rooted in the 9/11 hostile action by members of the Arab world and the military action by the United States in Afghanistan and Iraq, as well as the continued US support for Israel.

It is against this background that the United States is looking at the oil reserves of the world in general, and specifically in Africa, to lessen its dependence on oil production from the Middle East. The diversification of the US oil interests over the last 10 years made Africa's oil increasingly more important. This concerns the oil production of the continent itself, but particularly of the west coast of Africa. Africa owns about 8 percent of the world's known oil reserves, with Nigeria, Libya, and Equatorial Guinea as the region's leading oil producers. Seventy percent of Africa's oil production is concentrated in West Africa's Gulf of Guinea, stretching from the Ivory Coast to Angola. The low sulphur content of West African crude oil makes it of further strategic importance.[28] The Gulf of Guinea, including Angola and Nigeria, is projected to provide a quarter of US oil imports within a decade, surpassing the volume imported from the Persian Gulf.[29] By 2003, sub-Saharan Africa was providing the United States with 16 percent of its oil needs.[30] This has risen to 20 percent in 2007.[31]

The rise in US energy needs is bound to continue. At the same time, the war in Iraq will, in all likelihood, result in a widened regional struggle that will endanger America's strategic oil interests in the Middle East. This will impact the strategic importance of African oil for the US market.

Difficulty of Understanding the US Politico-Military Bureaucracy

One of the major challenges for Africa in dealing with the United States about the creation of AFRICOM is the difficulty of understanding the nature of US politics, especially the unique intricacies that are found in any political-bureaucratic system. This particularly concerns the role and personalities of individual US politicians and bureaucrats. It is this factor that very often leads to doubts about how much political and bureaucratic support there is for a particular US policy initiative in Africa and, consequently, how serious the United States is about a given policy direction—specifically in the absence of any serious US interests in Africa. Policy, in many cases, is nothing more than a declaration of intent by politicians.[32] Ultimately, it depends on the energy and support within the wider public and bureaucratic environment for the transformation of an intention into action (i.e., the execution of such a policy).

From this perspective, the declared intention of the Bush administration to create AFRICOM is dependent on the US bureaucracy, in general, and the military bureaucracy, in particular, to transform the intention of an Africa Command into a workable US military C^4I structure. If there is no strong support in the bureaucracy for a declared policy intention, it may slow the process down by not infusing it with the necessary energy. In some circles the creation of the Africa Command is seen as a policy initiative of the Bush administration as a whole and of Rumsfeld, in particular. There are, therefore, serious doubts in these circles as to whether the creation of AFRICOM will survive the Bush administration. There are also some questions as to the amount of support there is within the US military for the creation of such a command.[33]

The other side of this truth, however, is that bureaucracy has staying power and that once AFRICOM has been created, it will become increasingly difficult to change direction. This is of primary concern to the US military's organizational or institutional interests in AFRICOM. Once US military personnel have started to build their careers on the availability

of certain career paths for "African specialists," the military bureaucracy will develop a vested interest in maintaining such career paths. In practice, this means that once military personnel have reached general rank by being African specialists, it will become very difficult to change direction. Bureaucratic interests can, indeed, be a very important factor for the generation and development of national interests in a region, and it is often very difficult for outsiders, Africans in particular, to develop a clear understanding of the role of the US bureaucracy in this regard.

Until now, US policy concerning the majority of African countries was to a large extent the responsibility of the bureaucratic middle echelons in Washington practicing the art of bureaucratic conservatism. These bureaucrats operated within a framework of three guidelines: don't spend much money; don't take a stand that might create domestic controversy; and don't let African issues complicate policy towards other, more important, parts of the world.[34] This bureaucratic approach to US policy formulation led to a situation where the United States very often lost interest in Africa and, indeed, had to "rediscover" Africa at several junctions during the post–Second World War era.[35] However, there is the potential that high-level military bureaucratic concerns about maintaining interests in Africa may have a definite influence on the nature and sustainability of US policy towards Africa. This becomes even more important considering the reality that the US military is often the leading US foreign policy institution.

From a US policy implementation perspective, the US bureaucracy is perhaps no different than any other bureaucracy in the sense that its structures and programs have a very "stovepiped" nature. An expert on African affairs in the United States, Dr. Dan Henk from the USAF Air War College, for example, noted that US engagement with Africa has often reflected rather different approaches and intensities between the US Department of State, the US Agency for International Development, and the US Department of Defense. This very often results in some confusion about US interests, objectives, and motives.[36] AFRICOM, with its envisioned interagency character, will without a doubt positively influence US policy coordination in Africa. Not only will it ensure greater efficiency, it will also definitely contribute towards higher effectiveness of US policy initiatives in Africa—benefiting both the United States and African countries. The promise that the creation of AFRICOM will result in informed, consistent, coherent, and sustained engagement by the United States in Africa is something that ought to be welcomed throughout the continent.

Providing Military Support to Africa

Many (perhaps most) of the US actors involved in setting up the new command believe that AFRICOM will be significantly different from other combatant commands. It will have a much more robust "interagency complexion." From the outset, the planners have had a much greater interest in "soft power" issues such as health, infrastructural rehabilitation, the environment, economic development, security-sector reform, conflict attenuation, and other human security angles.[37] This arrangement is rooted in the belief that diplomatic, informational, and economic actions will be more critical in achieving US foreign policy objectives in Africa than the use of military force.[38] However, it also raises a question about a more proactive and preventative approach in protecting and extending US security and other interests in Africa, in contrast to the very cautious and defensive approach that has defined the US security involvement in Africa until now. AFRICOM, though, is not planned as the typical combatant command. Such an approach is appreciated, given the often very destructive nature of outside military involvement on the continent in the past. However, it should be recognized that there are also some dangers to an approach that underplays the role of the military in Africa.

The image of US foreign policy in many parts of Africa is informed by US military actions in other parts of the world, especially in Afghanistan and Iraq. It is an image that is strongly associated with the US military in general and the aggressive use of military force in particular. This very aggressive and "militarized" image of US foreign policy stands in stark contrast to the efforts by everybody involved in the creation of AFRICOM to downplay the hard-core military role of US military forces in Africa and to highlight the nonmilitary and soft-power roles of AFRICOM. This raises two kinds of questions in Africa. Firstly, will the US developmental and humanitarian assistance to Africa be militarized through a deliberate effort to put the military in charge of these activities? Related questions include, should the creation of AFRICOM be viewed as much more than interagency cooperation? Does AFRICOM represent a militarization of nonmilitary US support to Africa? Where is this militarization of humanitarian and other human security actions leading? These types of questions should be linked to the difficulty of understanding the US bureaucratic and military jargon in Africa. What, for example, is implied by "stability operations" in Africa?[39] Secondly, is the United States sincere with Africa about the creation of AFRICOM? The general image of US foreign policy in the

world does not correspond with the declared intention of the United States with the creation of AFRICOM. This should be linked to the question as to why AFRICOM should be different than all the other US geographical commands in other regions of the world. Is this not a form of discrimination or disparagement? What about the argument that the US military is ensuring a "soft landing" for AFRICOM in Africa by placing the emphasis on the soft-power issues in the creation of the command?[40] How long will the soft-power approach last before AFRICOM shows its true character and Africa or certain countries in Africa will be "Iraqed"?

These questions should be viewed against the urgent need for hard-core military developmental and other forms of military support in Africa. It is a widely recognized fact that one of the biggest challenges African countries face since independence is the lack of military professionalism. This often reveals itself in challenging civil-military relations to the extent that coup d'états have colored the political landscape of many African countries since independence. Military unprofessionalism in Africa is linked to a number of causations, such as subnational or ethnically based recruitment, military corruption, the development of parallel security apparatuses such as presidential guards, and domestic military deployments.[41] From this perspective, it will be disastrous if AFRICOM does not take the need for the development of military professionalism in Africa seriously. However, one of the primary causes of military unprofessionalism in Africa has been the influence of foreign military support in times of crises. In many cases, external support translates into a lack of urgency within African militaries because of the guarantee of a bailout that is provided by foreign military powers. This reality leaves an open question pertaining to the kind of soft-power military support that AFRICOM will provide to African militaries. It serves as a warning against an overemphasis of nonmilitary angles of military support in the creation of AFRICOM.

AFRICOM, in supporting African militaries, should place the emphasis on the *creation* of capacity, not the *provision* of capacity. In developing capacity, it is important for the US military not to come to the table with blueprints by being prescriptive or dogmatic—what had worked in America and other places in the world will not necessarily work in Africa. In short, Africans may be uncomfortable with the enforcement of US military doctrine on Africa. There are relatively well-developed doctrines within Africa—in most cases an interesting blend of old colonial doctrines combined with those of the United States and the former Soviet Union. This specifically

relates to insurgency and counterinsurgency doctrines since Africa has been involved in these kinds of wars for the last 50 years or more. The challenge for the US military is to capture these doctrines through an understanding of the African historical tradition. It is seen as a history from below, rooted in a strong oral tradition.[42] In view of the strategic situation confronting the United States in Iraq and elsewhere, learning from the African unconventional experience in an unconventional way may be not such a bad idea. In return and in exchange for ideas, Africa may benefit from more conventional US military expertise, hardware, and simulation technology in the building of African military capacity.[43]

However, this brings another important consideration to the fore, namely the lack of enthusiasm of African militaries towards outside military support. This pessimism towards military support is linked, in many cases, to the exploitation of Africa's lack of military resources. A shortage of resources is a critical vulnerability of most African militaries. Outside military support may provide African militaries with vital resources. However, their sustainment, in most cases, remains in the hands of those who supplied them since African militaries don't necessarily have such technological capabilities and skills. Africans cannot maintain the military resources that are provided, and a culture of dependency is created. Consequently, many Africans see the military-industrial complexes of the industrialized countries of the world, the United States in particular, as a major motivation for involvement in Africa and other parts of the world. The economies of supplier countries are further developed while, in many cases, destruction is exported to Africa, increasing African dependency.

In addition, it is important for AFRICOM not to be seen by Africans as an effort by the United States to replace the continental, regional, and military structures—the regional standby forces in particular—that have been created by Africans themselves or are in the process of development. In fact, the United States can play a major role by enhancing these structures on a continental and regional level and exploiting these structures for capacity building in Africa and its different regions. Africa may benefit from the development of interoperability within regional structures. The United States, when working through regional and continental structures, will be able to follow a multilateral approach by engaging the militaries of several African countries simultaneously and by being a silent partner.[44] Being the silent partner may not always serve the media-orientated approach of the US military. However, silent partnership may serve AFRICOM's

higher-order strategic objectives in Africa. This may imply, for example, that AFRICOM provides logistical platforms or opportunities for training and education while exploiting the availability of well-trained and educated African instructors.[45]

Confronting African Challenges

There is increasing pressure from within Africa to allow it to solve its own problems. There are even suggestions of a "United States of Africa"—though this may sound, and most probably is, a bit far-fetched.[46] However, the underlying message is one of "we want to take ownership of our own destiny" and that for too long Africa's future has been dictated by outsiders. This especially concerns the roles of Britain, France, and Portugal during the Colonial era and the United States and the former Soviet Union during the Cold War. It further translates into an increasing uneasiness of the people of Africa with Western and other influences (sometime interferences) in general and US influences (or interferences) in particular. The image of the United States, in particular, as a bully of the small, the weak, the defenseless, or the underdog has been strongly reinforced by the US invasion of Iraq. This is linked to the view of the United States as part of the "haves" and African people as the "have nots."

These views should, however, be tempered with the reality that one of the biggest challenges Africa and other parts of the global community dealing with Africa face is African solidarity. African solidarity most probably reached its apex with the creation of the African Union (AU) where, unlike the European Union, being part of Africa is the only qualification to become a member. This does not mean that there are no differences of opinion in the AU. However, its formation is a reflection of solidarity, especially as far as issues such as anticolonialism and Africanism are concerned.[47] Nonetheless, the road to African solidarity is rife with pitfalls. Africa's inability to address the Zimbabwean issue properly is but one example of the dangers of African solidarity. African solidarity very often results in a tendency to be very critical about what Western governments in particular—including the United States—are doing on the African continent. Yet, at the same time, Africans in general and African governments, in particular, look forward to how they can benefit from Western and US involvement on the continent.

The US government has clearly thought long and hard about the creation of AFRICOM, and aforementioned arguments have undoubtedly been raised

in initial deliberations. This is most probably the reason why the focus of AFRICOM will predominantly be on antiterrorist operations and humanitarian aid. AFRICOM, it is stated, would focus far less on preparing troops for major combat in its area of responsibility. The emphasis would rather be on military training programs to help African governments secure their borders, to guard against crises such as Darfur, and to contain deadly diseases such as AIDS and malaria. This is also the most likely reason for why the four-star general commanding AFRICOM is to have a civilian counterpart from the State Department to help coordinate the nonmilitary functions of the US government in Africa.

The people of Africa know that wherever you find the antelope, you will most probably also come across its most serious adversary, the African lion. There is fear in some circles on the African continent that Africa will be Iraqed—that is, that US efforts to protect itself against international terrorism from the African continent will, in fact, exacerbate the problem. This fear is rooted in the notion that a strong US military presence in Africa will draw the attention of its enemies and that, as in the Cold War, Africa will once again become the battlefield for the power and military struggles of the great powers—the United States and China, for instance, and particularly the US military and its international terrorist enemies.[48] This argument should be linked to the plan eventually to locate the command headquarters of AFRICOM somewhere on the African continent. There is no question that the country or countries that will host the headquarters of AFRICOM, or parts thereof, will also expose itself or themselves to the kinds of threats that presently face the United States.

The US way of war and the African way of war are diametrically opposed. US military doctrine is rooted in winning decisive battles through overwhelming use of conventional military technology. As in the case in Iraq after the battle for Baghdad, the US military often finds itself in a situation where the decisive battle or battles have been won, but not necessarily the war. The result is that in at least two occasions during the last 50 years, the US armed forces were sucked into indecisive, low-intensity wars.[49] Most conflict in Africa is unconventional by nature, being fought by second- or third-generation technology. This often results in indecisive, drawn-out, anarchic types of community wars with no decisive outcome.[50] It is precisely this kind of conflict that the US armed forces steer away from, especially since their experience in Vietnam and, even more so, after their more recent experience in Iraq. It is also the kind of conflict that in

1993 resulted in the Somalia syndrome after the catastrophe in Mogadishu and most probably led to US reluctance to become militarily involved in Africa. In Africa this reluctance contributes to a "runaway" image of the US military. This image was reinforced by the United States' unwillingness to become involved in human tragedies such as the Rwanda, Sierra Leone, and Darfur crises. Compare that, for example, with US political and military efforts during the 1990s to solve problems in the Balkans—a geographical region in which, it is believed, the United States also did not have much political and economic interests.

Reluctance to contribute in solving complex emergencies in Africa reinforces the view in Africa that the United States is quick to showcase its successes and contributions to African security. However, the United States is not seen as a power with the courage to commit itself to deal with complex security and other challenges in Africa on a sustainable basis. Linked to the notion that it will only become involved in a region if it can gain economically, the general image of the US military in Africa is one of disdain. The US military lacks credibility in some parts of Africa and very often is seen as a legitimate target. In the past, this frequently resulted in the US military becoming the victim of bad publicity in Africa. AFRICOM may become an important vehicle to sustain US involvement in Africa and, by doing so, to contribute towards a more positive image of the United States and its military in Africa. As a result, the creation of AFRICOM may be the first real test for sustainable US involvement in Africa.

The creation of AFRICOM is eventually closely linked to the question as to whether there is recognition by the US government and its military that the future of war in the "age of terror" would primarily be irregular. During the 1990s, the United States was in the exceptional position that, as the world's only remaining superpower, it could choose where and for whatever reason to intervene militarily. There was at the same time no lack of opportunity to act as the world's policeman since widespread conflict of an anarchic nature appeared all over the globe, from the Balkans to Central Africa, the Middle East, and the former Soviet Union (Chechnya). In most cases, these conflicts did not really impinge on vital US interests, nor did they have the potential to ignite the outbreak of a third world war.[51] As a result, there was no real conflict that was important enough for the United States to act decisively. That was until 9/11—the day on which the United States became part of the "coming anarchy."[52] It may be good to remember that the initial article on the coming anarchy by Kaplan in the *Atlantic*

Monthly was primarily based on his experiences as a journalist in Africa.[53] This led to an obvious conclusion for this argument. If the United States really wants to be successful in its war on terror, Africa has to be part of the solution. In the end, Africa's problems—whether the United Sates and its military like it or not—have indeed became America's problems. The creation of AFRICOM may be a small recognition of this reality.

Some Implications

Africa presents a challenge to any modern conventionally minded military force. The creation of AFRICOM makes military sense if the US military wants to be successful in its military endeavours on the African continent. There are also other strategic advantages for the United States and its military in creating AFRICOM. For the United States, the most obvious advantage will be the close interaction with African realities as well as with the people of Africa. It is hoped that such interaction will translate into a better understanding of African dynamics and intricacies both in the US bureaucracy and amongst the US public at large. It will most definitely allow the United States the ability to develop a better intelligence picture of Africa. Included in this intelligence picture will be a better interpretation of the threats that confront the United States in and from Africa.

The most obvious advantage that flows from the United States having a better intelligence picture of Africa is the opportunity to exploit market and other opportunities that arise. Furthermore, it will be able to better secure itself through a proactive, preventative approach to international terrorism in Africa—dealing with problems before they arise. US military presence on the African continent will empower the United States to better communicate with Africa on a military-diplomatic level and, in doing so, will ensure greater understanding in Africa and African militaries of US military endeavours in Africa and the world over. There is no question that antagonism may develop in certain parts of Africa as a result of a US military presence on the continent. Judging by the recent comments by the South African minister of defense, these antagonisms may have their origins in certain African countries and regional structures that, for historic reasons, are very critical of what the United States is doing in the world, and particularly in Africa.[54] These antagonisms may also have their origins outside of Africa. This specifically relates to the growing Chinese diplomatic and economic involvement in Africa. A cloud of vagueness surrounds Chinese military

involvement in Africa, and more so the extent to which it is undermining US military involvement in Africa. The question is whether African political and strategic culture will allow African leaders the room to exploit the best of what China and the United States bring to the African table.

The creation of AFRICOM will raise Africa's strategic profile in the United States as well as other parts of the world. African militaries are to benefit from the creation of AFRICOM in terms of military-diplomatic opportunities and the transfer of military expertise and other more tangible military means. This includes help that the US armed forces may provide in the development of a unique military professional ethos in African militaries, the transformation of African defense management to be more accountable and transparent, and the further enhancement of African peacekeeping and post-conflict reconstruction capabilities.

The US military has to overcome a number of obstacles in the creation of AFRICOM, both in Africa and the United States. On one side of the Atlantic, the United States has to deal with an aggressive, militarized image of US foreign policy linked to the history of unsustainable US military involvement. This image is rooted in a very real fear in certain parts of Africa that it may become the victim of Iraqization. This undermines US military credibility and makes it a legitimate target. On the other side of the Atlantic, given the bad publicity of the US military in Africa in the past, the Somalia syndrome may still dictate US military thinking and attitudes. Fortunately (or unfortunately), this is the world of strategy where policy, emotion, and change reign.[55] SSQ

Notes

1. The author would like to thank Dr. Dan Henk from the USAF Air War College for reading and commenting on earlier drafts of the article.

2. Wyndham Hartley, "Southern Africa: More U.S. Soldiers Not Welcome in Africa, Says Lekota," *Business Day* (Johannesburg), 30 August 2007, http://allafrica.com/stories/200708300344.html. The ambiguity or dualism, to be precise, in the South African government's position towards the US military is, of course, reflected in the reality that at the same time that the minister of defense was making these statements, the South African Navy was involved in exercises off the South African coastline with a contingent of the US Navy. These exercises between the South African and US militaries follow in the wake of the announcement on the creation of AFRICOM.

3. Michael Clough, *Free At Last? US Policy toward Africa and the End of the Cold War* (New York: Council on Foreign Relations Press, 1992), 1.

4. Lauren Ploch, *Africa Command: U.S. Strategic Interests and the Role of the U.S. Military in Africa*, CRS Report for Congress (Washington, DC: Congressional Research Service, 16 May 2007), 10.

5. The White House, "President Bush Creates a Department of Defense Unified Combatant Command for Africa," Office of the Press Secretary, 6 February 2007, http://www.whitehouse.gov/news/releases/2007/02/20070206-3.html.

6. Ibid.

7. Clough, *Free At Last?* 3.

8. For example, see Richard G. Catoire, "A CINC for Sub-Saharan Africa? Rethinking the Unified Command Plan," *Parameters* 30 (Winter 2000–01): 102–17.

9. Jackie Northam, "Pentagon Creates Military Command for Africa," *NPR* (*National Public Radio*), Morning Edition, 7 February 2007, http://www.npr.org/templates/story/story.php?storyId=7234997.

10. US Department of Defense, "DoD Establishing US Africa Command," *DefenseLink*, American Forces Press Service, http://www.defenselink.mil/News/NewsArticle.aspx?id=2940.

11. Ibid.

12. Northam, "Pentagon Creates Military Command for Africa."

13. Jim Lobe, "Africa to Get Its Own US Military Command," Antiwar.com, 1 February 2007, http://www.antiwar.com/lobe/?articleid=10443.

14. Sally B. Donnelly, "Exclusive: The Pentagon Plans for an African Command," *Time*, http://lib.store.yahoo.net/lib/realityzone/UFNAfricancommand.mht.

15. Bryan Bender, "Pentagon Plans New Command to Cover Africa," *Boston Globe*, 21 December 2006, http://www.boston.com/news/world/articles/2006/12/21/pentagon_plans_new_command _to_cover_africa.

16. Simon Tisdall, "US Moves in on Africa," *Guardian*, 9 February 2007, http://www.guardian.co.uk/usa/story/0,,2009098,00.html.

17. Gary Leupp, "We're Taking Down Seven Countries in Five Years: A Regime Change Checklist," *Dissident Voice*, 17 January 2007, http://www.dissidentvoice.org/Jan07/Leupp17.htm.

18. Jim Fisher-Thompson, "U.S. Official Dispels 'Alarmist Views' of China in Africa," *USINFO*, Bureau of International Information Programs, US Department of State, 16 February 2007, http://usinfo.state.gov/xarchives/display.html?p=washfile-english&y=2007&m=February&x=200702161420311E JrehsiF0.6760828.

19. Philippe D. Rogers, "Dragon with a Heart of Darkness? Countering Chinese Influence in Africa," *Joint Force Quarterly* 47 (4th Quarter 2007): 22–27.

20. This was confirmed in a presentation by Amb. David H. Shinn, adjunct professor of international affairs, George Washington University (lecture, South African Military Academy, Saldanha, 28 August 2007).

21. M. Rossouw, "Mbeki Verdedig China se Involved in Afrika," *Die Burger* (Cape Town, South Africa), 4 June 2007, 6.

22. Northam, "Pentagon Creates Military Command for Africa."

23. Hartley, "Southern Africa."

24. J. Ferreira, "Terrorisme Beleef Oplewing in Noord-Afrika," *Die Burger*, 13 April 2007, 6.

25. James Jay Carafano and Nile Gardiner, "US Military Assistance for Africa: A Better Solution," The Heritage Foundation, 15 October 2003, http://www.heritage.org?Reasearch?africa/bg1697.cfm.

26. Lt Col Gary Lloyd (chief military observer for the African Mission in Sudan), interview by the author during visit to the South African Military Academy, Saldanha, 23 August 2007.

27. Gen Barry R. McCaffrey, USA, retired, to Col Michael Meese, professor and head, Department of Social Sciences, US Military Academy, West Point, NY, internal memorandum, subject: After-Action Report: Visit [to] Iraq and Kuwait, 9–16 March 2007, (submitted) 26 March 2007, http://media.washingtonpost.com/wp-rv/nation/documents/McCaffrey_Report_032707.pdf.

28. Chietigj Bajpaee, "Sino-US Energy Competition in Africa," *Power and Interest News Report*, 7 October 2005, http://www.pinr.com/report.php?ac=view_report& report_id=378&language_id=1.

29. Tisdall, "US Moves in Africa."

30. Carafano and Gardiner, "US Military Assistance for Africa."

31. Lobe, "Africa to Get Its Own US Military Command."

32. See, for example, the discussion by John Garnett, "Defence Policy-Making," in John Baylis et al., *Contemporary Strategy II* (New York: Holmes & Meier, 1987), 2.

33. This particular point was raised by a number of US delegates at the 33rd International Congress of Military History in Cape Town, 13–17 August 2007, where an earlier draft of the paper was read.

34. Clough, *Free At Last?* 2.

35. Peter J. Schraeder, *United States Foreign Policy toward Africa: Incrementalism, Crisis, and Change* (Cambridge: Cambridge University Press, 1994), 2.

36. See the discussion of this phenomenon in Dan Henk, "The Environment, the US Military, and Southern Africa," *Parameters* 36, no. 2 (Summer 2006): 98–117.

37. Dr. Dan Henk, Air War College, e-mail message to author, 30 July 2007.

38. Bender, "Pentagon Plans New Command."

39. Testimony by Mark Malan, "AFRICOM: A Wolf in Sheep's Clothing?" before the Subcommittee on African Affairs, Committee on Foreign Relations, US Senate, at the hearing entitled *Exploring the U.S. Africa Command and the New Strategic Relationship with Africa*, 110th Cong., 1st sess., 1 August 2007, http://foreign.senate.gov/testimony/2007/MalanTestimony070801.pdf.

40. A concern that was expressed by Col Johan van der Walt (senior staff officer, Peace Support Operations [UN] of the South African National Defense Force), telephonic interview by the author, 28 August 2007.

41. Herbert M. Howe, *Ambiguous Order: Military Forces in African States* (London: Lynne Rienner Pub., 2001), chap. 2.

42. Mluleki George, South African deputy minister of defense (speech, official opening of the 33rd International Congress of the International Commission for Military History, Cape Town, South Africa, 13 August 2007).

43. Lloyd, interview.

44. The US military, fortunately, does understand the importance of working through regional and continental structures. For an example in this regard, see "Africa: U.S. Military Command to Seek Value-Added Capabilities for Africa," *The News*, 4 October 2007, http://allafrica.com/stories/200710040767.html.

45. Ibid.

46. Liesl Louw, "Verenigde State van Afrika: AU Begin Praat," *Beeld*, 2 July 2007, 10.

47. For an excellent exposition of the tension in South African foreign policy between democracy on the one hand and Africanism and anticolonialism on the other, see Laurie Nathan, "Consistency and Inconsistencies in South African Foreign Policy," *International Affairs* 81, no. 2 (March 2005): 361–72.

48. L. Scholtz, "Sal Afrika se Gras Weer Trapplek Word?" *Die Burger*, 9 February 2007, 8.

49. See the discussion of this phenomenon in Thomas E. Ricks, *Fiasco: The American Military Adventure in Iraq* (London: Penguin Books, 2006), 129–33.

50. CAPT Larry Seaquist, US Navy, retired, "Community War," *Proceedings*, United States Naval Institute, August 2000, 56–59, http://www.d-n-i.net/fcs/seaquist_community_war.htm.

51. Colin S. Gray, *War, Peace and International Relations: An Introduction to Strategic History* (London: Routledge, 2007), 223.

52. Robert D. Kaplan, *The Coming Anarchy: Shattering the Dreams of the Post Cold War* (New York: Random House, 2000).

53. Robert D. Kaplan, "The Coming Anarchy: How Scarcity, Crime, Overpopulation, Tribalism, and Disease Are Rapidly Destroying the Social Fabric of Our Planet," *The Atlantic Monthly* 273, no. 2 (February 1994): 44–76, http://www.theatlantic.com/doc/prem/199402/anarchy.

54. The South African minister of defense stated explicitly that more US soldiers are not welcome in Africa. See Hartley, "Southern Africa." The roots of this anti-American sentiment by the South African government are not very clear. It may have an ideological connection with the ruling party in South Africa, the ANC, having its roots firmly "on the other side of the hill" during the Cold War era. It may also have a historical dimension with the US support to Euro-African minorities clinging to minority rule in many African countries during the Cold War. Current policies may also be of influence with the US strategy of preemption and other more aggressive and militarized approaches in its foreign policy that are seen as neo-imperialism in Africa. From an economic perspective, it is possible to argue that South Africa may view growing US influence in Africa as unfair competition. From an international political perspective, South Africa has some strange "friends" and is clearly aligning itself with countries that the United States will not be comfortable with, including Cuba and Iran.

55. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 89.

Book Reviews

War Crimes and Just War by Larry May. Cambridge University Press, 2007, 357 pp., $29.99.

Larry May sets out to lay the normative foundations for international humanitarian law in his latest, truly thoughtful, and easily accessible book, *War Crimes and Just War*. While he lays out the book to support what he says in the first sentence that he intends to do, what comes out more clearly than a foundation is a normative argument for humane treatment of your opponent in war, especially if he is your prisoner.

May grounds himself in what he calls a secularist and minimalist version of natural law. The problem with this grounding is that by secularizing and minimizing natural law, he has to determine which elements of the broader law to use as his foundation and which to leave out. Thus, he loses some measure of credibility in claiming universality in norms. That does not mean that he is incorrect. Far from it. But the problem when dealing with normative vice empirical issues is that you set yourself up for the criticism of inconsistency if you do not firmly establish that your normative claims—such as the importance of humane treatment—are truly universal.

May's primary foundational grounding for determining culpability is in the concepts of humane treatment and honor. Thus, he contends that war crimes are not necessarily crimes against humanity but against humaneness. And it is here that the reader should encounter a problem. It is difficult to measure variance from something unless we can define that from which we need to know how far we vary. By defining *humaneness* as a "simple matter of charity" (p. 71) it seems that May's own definition is fraught with ambiguity—even in our own country and culture—let alone when discussing fighting between cultures. Likewise, by his defining *honor* as the sense of being morally superior and as the "motive to follow the rules as enhanced beyond what is true for the normal person" (p. 32), we are left with trying to describe multiple concepts within a single definition.

If military professionals or the civilians who command them are to draw any benefit from this work, it is certainly to be found in May's treatment of individual dependency and how that concept relates to distinction, proportionality, and discrimination. First, May methodically defines the relationship between combatants and noncombatants as one of dependency, going far beyond Walzer and the comfort zone of even the most liberally minded US officers. He argues that when one person renders another dependent, the former has special responsibilities towards the latter. He takes this argument of dependency, which he fully develops with respect to prisoners, even farther with fielded forces.

May disagrees with Walzer's distinction of threats and, consequently, what is allowable in war. Where Walzer posits the legitimacy of attacking the naked soldier who is bathing, based on his belonging to a group that is a legitimate target and that will return to the front to fight, May argues that such group distinction is unjustifiable and that we must break down the decision to the individual level. He reasons that because the naked soldier is not a threat, he is dependent upon the attacker for mercy. Just as we would expect soldiers to "spare civilian persons," May expects soldiers to spare those who are not a danger to us at a given time (pp. 110–12) as well as those who are vulnerable to our attack without the ability to render us vulnerable in return (pp. 172–76).

If air forces were to follow May's positions as doctrine, then the attacks against barracks a hundred miles from Kosovo in the initial nights of Operation Allied Force would be deemed violations of international humanitarian law. The entire face of warfare would have to change as tactics and strategies which have become accepted through centuries, from King Arthur riding through the Gaelic Confederation camp in the night while they slept, to "plinking" tanks well behind the lines during the first Gulf War, to the use of stealth and standoff weapons to minimize an aircrew's risk while attacking a target.

From the principle of distinction, that is, who is allowed to be attacked, follows the principle of necessity, that is, what we may attack. May posits that first "the military objective must be normatively compelling in light of the overall objectives of the war [and that] there must be no other, less objectionable tactics available to achieve the same objective" (p. 208). It seems to me that May's understanding of necessity is very close to what the US military teaches its officers today. This brings us to his discussion of proportionality, which will once again challenge the US officer.

American military officers certainly understand the doctrine of double effect, such as when May argues for restricting tactics to equate them to what is to be achieved (p. 219). But May goes farther than that. He proposes that the tactics chosen must minimize suffering and promote human values, force soldiers to stop and think before they act (p. 221), and never allow us to weigh the lives of our soldiers as greater than the lives of any others (p. 225). Such rules, if followed as best practices and principles, could easily render any military force unusable in most situations. While this may be what some would argue could make a better world, it is not a practical set of guidelines for those professional officers given the Huntingtonian task of faithfully carrying out orders that they oppose.

It is a good thing to discuss where standards ought to lie and to try to define standards of right and wrong more precisely. It is also good to try to determine what a "normal" person is with respect to targeting and how many noncombatants are worth a particular objective. But it is also deeply troubling to think of ourselves as criminals for taking the opportunity to kill the enemy commander prior to the battle commencing during a war or to attack a target with standoff weapons to keep the aircrew out of reach of air defenses. Yet, while many officers discuss what is good and right, humane and honorable in other areas of life

aside from strategy and tactics, they find it difficult to extend that same reasoning to military operations and enemy soldiers. Perhaps May's book, if read and discussed in professional circles, could help us to bridge that gap.

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Finding the Target: The Transformation of American Military Policy by Frederick W. Kagan. Encounter Books, 2006, 432 pp., $29.95.

> *Politicians and soldiers are still thinking in terms of the old paradigm . . . whilst the enemy and the battle [have] changed. As a result the utility of the effort is minimal: the force . . . is not delivering the required results, nor indeed any result that is in proportion to its assumed capabilities.*
>
> —Gen Rupert Smith

General Smith captures the fact that time and the "paradoxical logic of strategy" bring new enemies and new tactics to contend with.[1] Since the fall of the Iron Curtain, however, American military thought has equated capability, and its handmaiden technology, to good strategy. This is nowhere more starkly pronounced than in network-centric warfare (NCW) and the revolution in military affairs (RMA).[2] Today's critics argue for adaptive strategy rather than for unfocused capability, and Frederick W. Kagan is important among the critics. His hard-hitting book, *Finding the Target*, generously reviewed by the *New York Times*, the *Armed Forces Journal*, and *Foreign Affairs*, attempts to reorientate the strategic debate from operational and tactical excellence to how military power might best serve political aims. The book fleshes out the argument that many of the troubles plaguing the military stem from efforts to "transform" the armed forces by shifting to high-tech weapons.

Kagan has impeccable neoconservative credentials. His father is the neoconservative classicist Donald Kagan, and his brother, Robert, is cofounder of the Project for the New American Century—all have written on the need for a stronger and more interventionist US military. Frederick Kagan is a graduate of Yale University and has taught at the US Military Academy. Currently a resident scholar at the American Enterprise Institute, he is a rising star among national security advisors and, as someone who has the ear of the president, deserves attention.

Kagan begins by paraphrasing Hedley Bull in reminding us that "war is the organized, purposeful use of violence to achieve a political objective" (p. xvi).[3] This restatement of Clausewitz's more famous dictum is central to his argument that in a complex strategic landscape, war's instruments must serve policy and not institutional preferences, a problem that "has bedeviled airpower theorists virtually from the birth of air forces" (p. 397).[4] Kagan posits that the American military successfully transformed itself after the humiliation of Vietnam with the all-volunteer Army and a step approach to the upgrading of personnel and weapons, but then fell captive to dreams of dominance through technology alone. This concentration

on raw power, especially airpower, courts disaster by losing sight of the human component of warfare.[5]

Kagan's pitch is that successful change accrues when the military develops specific responses to clearly identifiable threats. He is blunt about airpower in Vietnam; it was a disastrous failure because of a rigid adherence to nuclear war concepts rather than to the demands of contingency operations. Kagan argues that the subsequent preparations for multiple scenarios, mixed with intellectual rigor, a definite Soviet threat, and incremental technological advances, ensured a better-balanced force (pp. 33–35). AirLand Battle (ALB) doctrine is a case in point, where a nontechnologically deterministic outlook "balanced military power" (pp. 57–69). Kagan's subsequent heavy plodding through ALB doctrine, "center of gravity" arguments, and retired Air Force colonels John R. Boyd's and John A. Warden's theories lay the foundation for his following the "people, not technology, win wars" hypothesis.

His analysis calls airpower theorists to task, as his treatment of Boyd's and Warden's theories is a case of damning airpower by faint praise. On Boyd, he concludes that the theory fails to account for the reality that "the disaggregation of the enemy system" is "likely to be fleeting rather than permanent" and that ground forces would be required to secure victory from any initial airpower successes (p. 112). Kagan then finesses Warden's theory with the simple question, "What happens if the enemy does not surrender to such an attack [targeting against the enemy's "rings"]? The answer is that the enemy "attempts to recover from the shock," with the implication that ground troops must follow through on what airpower started (p. 141). Kagan does not dismiss airpower, but he is hinting that it needs grounding within a holistic and synergistic framework, which has ground power as the ultimate guarantor of victory—modern war, in essence, is about direct control.[6]

Kagan sees the Pentagon's vision of war as devoid of human factors and shaped by technological innovation, especially information technology, rather than specific threats. This, he argues, is the primary cause for the problems in today's Iraq (p. x). He credits ALB and the Maritime Strategy success to technological developments "just visible on the horizon," rather than "off-the-shelf" and "leap-ahead" technologies, in answering the geostrategic challenges posed by the Soviets (p. 71). This is another subtle dig at the Air Force's preference for cutting-edge-and-beyond technology. Kagan wants doctrinal thinking and technology procurement to meet today's geopolitical and geostrategic ends, not deductive and institutional impressions of future war.

Kagan argues that after the Gulf War, military transformation was liberated "from the tyranny of a clear enemy," and this morphed war into "a targeting drill," where "the only systems in the future that would matter would be those that improved America's ability to put metal precisely on target" (pp. 72–73). This focus on the "minutiae of technology" privileges the primacy of destruction over planning for political outcomes (p. 253). The result is that concepts such as RMA, NCW, "Rapid Dominance" operations, and "shock and awe" led George W. Bush's administration into a transformation agenda where the means became the ends, despite the presence of an uncooperative adversary (pp. 265–81).[7]

Kagan sees this as anathema since today's problem is not one of targeting accuracy and ubiquitous knowledge but of solving concrete problems facing the military (p. 360). Kagan's advice is to stop looking for technological and doctrinal nirvana unsullied by political and practical realities, as military capability only has utility if it serves political objectives.[8] In effect, in a world of multiple and continuing threats, the nexus between strategy and the "object of the war" needs restoring—"toys" and abstract concepts must take a backseat to the concept of strategic utility.[9]

Kagan has a point—a point that Airmen almost genetically prefer to ignore. The Air Force, since inception, has concentrated on aircraft and technology.[10] Critics argue that the focus on "breaking things" and "killing people" puts targeting on a par with strategy. Kagan is adamant that war is not just about this and that "it is purposeful violence to achieve a political goal" (p. 358). He indirectly accuses airpower advocates' rose-tinted military and strategic thinking of bedeviling policy's aim by erroneously conflating war with striking targets (p. 359). The suggestion is that airpower's fixation with gadgets and possible futures, rather than the here and now of regime-change wars, is a Darwinian dead end if left unaddressed by Airmen (pp. 364–73).

Kagan has an agenda. He aims to redirect military and political thought along strategic lines that *serve* the interests of the nation from a neoconservative perspective. Kagan states that threat-based planning better meets strategic aims than capabilities-based planning, and his excoriating attack on the absence of well-grounded military thought in the nineties lays bare the folly of pursuing operational and tactical excellence as ends rather than means. Kagan wants you to think long and hard as to *why* certain equipment and concepts are needed, and Airmen are in his sights. He finishes with an analysis of the threats to come and how best to meet them, calling for a huge increase in the Army and Marines by some 200,000 troops (pp. 386–87). Kagan's cure is well grounded in strategic-utility theory and current analysis.[11] Essentially Clausewitzean, it sees war as a social phenomenon rather than as a targeting problem. Abstract theories of how to bring down enemies through targeting sit uncomfortably with political realities such as Iraq and Afghanistan.

The Air Force's preference for technological excellence and its unwavering belief that it holds the key to strategic success invites accusations of irrelevance. Kagan makes it clear that focusing on internal transformations "are unlikely to succeed" in providing strategic coinage. Air Force advocates need to think hard about how airpower adds to the nation's current and near-future fights. To claim that the F-22 can beat all comers is operationally exciting but strategically irrelevant—it is the contingency that gives any platform strategic significance. The former needs to be better tied to the latter. The challenge is for air strategy to relate to grand and surface strategies in the service of policy and not the institution. Kagan proposes that we need to think backwards from the likely future fights and then determine the force structure required (pp. 343–45). Results from this analysis may mirror today's Air Force structure, or it may not—either way, the expended intellectual endeavor will better match airpower resources to strategic utility and provide unequivocal, evidentiary, and empirical justification for requested resources.[12]

Kagan's book is not perfect as it suffers from a biased analytical perspective and errors of fact, such as omitting the sacrifice of the F-111 crew in the raid on Libya (p. 100).[13] Technology has, however, always had a bigger role than ideas for the Air Force, which has invariably led to visions of airpower's utility outrunning reality.[14] This book throws down the gauntlet for Air Force advocates to justify their budget share with reference to strategic utility rather than with a preferred image of war. The book is a provocative and timely attempt to reinvigorate the intellectual debate on what it means to have strategic utility in an age of regime-change war. It is a must-read for airpower thinkers wishing to take up the challenge.

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Notes

1. Rupert Smith, *The Utility of Force: The Art of War in the Modern World* (New York: Alfred A. Knopf, 2007), 7; and Edward N. Luttwak, *Strategy: The Logic of War and Peace* (Cambridge, MA: Belknap Press, 1987).

2. Stephen D. Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton, NJ: Princeton University Press, 2004), 4.

3. Hedley Bull, *The Anarchical Society: A Study of Order in World Politics* (New York: Columbia University Press, 2002), 178.

4. For a discussion of images of war and service masks, see Carl von Clausewitz, *On War,* ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1984), 87; and Carl H. Builder, *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore, MD: Johns Hopkins University Press, 1989).

5. Barry Gewen, "War Chronicle," *New York Times*, 17 Dec 2006, http://query.nytimes.com/gst/fullpage.html?res=9C04E5D81731F934A25751C1A9609C8B63.

6. See J. C. Wylie's comment that the "*ultimate determinant in war is the man on the scene with the gun*" (emphasis in original) in *Military Strategy: A General Theory of Power Control* (Annapolis, MD: Naval Institute Press, 1989), 72.

7. Clausewitz, *On War*, 75.

8. Ibid., 90–99.

9. Colin S. Gray, *Explorations in Strategy* (Westport, CT: Greenwood Press, 1996), chap. 1.

10. Builder, *Masks of War*, 67–74.

11. To name but a fraction of the literature: Clausewitz's *On War*; Gray's *Explorations in Strategy*; Smith's *Utility of Force*; and Williamson Murray and Mark Grimsley's "Introduction: On Strategy," in *The Making of Strategy: Rulers, States, and War*, eds. Williamson Murray, MacGregor Knox, and Alvin Bernstein (Cambridge, UK: Cambridge University Press, 1994), 1.

12. This does not override the fact that any strategic assessment of future conflict is subjective, however exhaustive the analysis, and therefore open to alternative interpretation.

13. For an excellent detailed account of the raid, see Joseph T. Stanik's *El Dorado Canyon: Reagan's Undeclared War with Qaddafi* (Annapolis, MD: Naval Institute Press, 2003).

14. David MacIsaac, "Voices from the Central Blue: The Air Power Theorists," in *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, eds. Peter Paret, Gordon Craig, and Felix Gilbert (Princeton, NJ: Princeton University Press, 1986), 624–47.

Defending the Holy Land: A Critical Analysis of Israel's Security and Foreign Policy by Zeev Maoz. University of Michigan Press, 2006, 728 pp., $45.00.

While there are numerous books on Israel's foreign and security policy, this offering by Zeev Maoz is surely the most comprehensive and analytical of them all. Maoz, currently professor of political science at the University of California at Davis and former faculty member at several Israeli institutions, is a prolific contributor to discussions about Israeli security matters along with more general works on war and conflict. This book may stand as the magnum opus of his distinguished career.

Maoz wrote this book to address what he claims is an uncritical attitude in Israel and beyond regarding Israeli security doctrine and practice. Given that Israel is the most conflict-prone state in modern history, Maoz argues that it is essential to question some of the most basic assumptions about Israeli security policy. This is particularly the case regarding the tragically commonplace Israeli assumption that war is the most appropriate instrument for dealing with intractable foes. However, Maoz finds that none of the wars that Israel initiated (1956, 1967, and the Lebanon wars) were wars of necessity.

For Maoz, the 1956 Suez war originated because of obsessive Israeli fears about Gamal Abdel Nasser, though the vast majority of guerilla attacks against Israel came from Palestinians in Jordan. War planning also showed Israeli desires to remake the Middle East (annexing Lebanon south of the Litani River and combining Jordan and Iraq, with Palestinian refugees settled there), along with a belief that the Sinai war would make Israel more secure because no Egyptian regime could be worse than Nasser's. However, Israeli calculations were incorrect by a wide margin, and Nasser actually strengthened his position by claiming "victory."

Many have advanced explanations for the 1967 war, including, for Idith Zertal (*Israel's Holocaust and the Politics of Nationhood*, 2005), the Eichmann trial ("beyond that [Egyptian] border thousands of Eichmann's [*sic*] lie in wait") (p. 110), the diversionary theory of war (internal problems in all the belligerent states), water access issues, crisis management, and the false Soviet warnings to the Arabs about an Israeli attack. Maoz argues that the roots of the 1967 war were in the 1950s—for instance, Israel's nuclear weapons project and Israel's bellicosity in 1956. While Egypt became increasingly reckless as the crisis grew, Maoz holds that "Syria did not pose any serious strategic threat to Israel" (p. 110). The war came anyway, ultimately contributing to continuing regional insecurity. That came home to Israel in the 1973 war, when a combined Arab attack surprised Israel and killed over 3,000 Israeli soldiers in a conflict that Maoz claims was largely a consequence of Israeli diplomatic failure. While the Israelis did ultimately prevail in the 1973 war, the attack itself shocked Israel's system, and that shock would soon be magnified by Israel's incursion into Lebanon. Maoz claims that this ultimately disastrous operation occurred because of Ariel Sharon's manipulation of Prime Minister Menachim Begin's cabinet to

accept the Israeli Lebanon incursion as a part of a greater effort to perpetuate Israeli control of the occupied territories and to destroy the PLO, despite that organization's relative restraint on the Lebanese border. The operation unraveled because of the failure to anticipate negative developments (the assassination of Bashir Gemayel, the pro-Israeli Lebanese president, for example, or the Sabra-Shatilla refugee camp massacre). For Maoz, because of leadership hubris and miscalculation, Israel accomplished none of its key objectives, a conclusion that echoes in the wake of the 2006 conflict with Hezbollah.

Maoz also considers Israeli doctrines on limited force, which he argues both deterred and provoked neighboring Arabs into war—even though Israeli leaders knew that Arab regimes had not orchestrated guerilla raids against Israel for fear of Israeli reprisals. Doctrine aside, Israel was rarely able to control limited applications of force, which too often escalated into major conflicts. The Israel Defense Force (IDF) was wholly unprepared for both Palestinian intifadas and thus inflicted disproportionate casualties among Palestinian civilians, even though Israeli leaders knew that the infliction of such casualties was ineffective as a deterrent.

One of Israel's more controversial defense policy areas is its nuclear weapons capability, which Israel has kept opaque for various reasons. Maoz argues that if Israel's nuclear capacity were intended to deter adversaries, it has clearly failed to do so—witness the 1973 war, the various Palestinian uprisings, and the 2006 Hezbollah war (which came after publication). The other paradox about the Israeli nuclear program is that the more successful Israel is at hiding its existence, the less credible its deterrent effect.

Maoz also highlights Israeli efforts to interfere in Arab politics, starting with a failed effort to discredit Nasser's regime through terrorist attacks inside Egypt. Israel also tried to foment rebellions in Sudan and in Kurdish areas of Iraq against Ba'athist regimes and failed in both efforts, as did Israeli efforts to counter the PLO in the occupied territories by supporting conservative Islamists (the forerunner of Hamas). Peace-building efforts by Israel also came up short, according to Maoz, marked by a constant risk-adverse approach in dealing with potential or real adversaries. Starting with a failure to respond to Syrian peace initiatives in 1949, Maoz charts one missed opportunity after another—Egypt in 1953–54, Syria again in 1996, and the failure to reach accords with the Palestinians and the Syrians (again) during the Clinton administration. In the Palestinian case, Maoz notes that while most of the blame for failure has been heaped on Yasir Arafat, Israel must share the blame because of the continuing growth of Israeli settlements in the occupied territories and the withholding of PLO finances.

Maoz argues that some of Israel's security problems stem from the dominance of the security community in making key decisions about the use of force with little Knesset or Supreme Court oversight. The consequence for Israel is that, for Maoz, even though Israel "won" most of its wars (due largely to the incompetence of its enemies), no war has made it more secure.

This is an extraordinary book, thoroughly researched (though Israeli and Arab archives were unfortunately unavailable) and convincingly argued. It will remain a standard milepost work on Israeli security for decades to come.

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Breeding Bin Ladens: America, Islam, and the Future of Europe by Zachary Shore. Johns Hopkins University Press, 2006, 240 pp., $25.00.

"No one is born a terrorist; terrorists are bred." That is the thesis of the book *Breeding Bin Ladens* by Zachary Shore, an associate professor of national security affairs at the Naval Postgraduate School and a research scholar at the Institute of European Studies and the Institute of International Studies (University of California). Realizing the potential significance of the revival of religious fundamentalism among European Muslims, Shore sets out to document their perspective of the West and how this perspective is shaping future generations of European Muslims. His concise narrative revolves around interviews he conducted across Europe with Muslim immigrants. Unfortunately, it lacks the substantial analysis necessary to make it truly insightful and all too clearly projects his bias.

Throughout the book, Shore talks of a "volatile European fault line" where Western values, American policies, and perceived failures—especially as they concern Israel—clash with a growing number of European Muslims who feel disenchanted with their adopted countries due to many cultural and economic forces. Much of this disenchantment stems from Muslim views of America, and it certainly could not be argued that American appeal in the Muslim world is low.

The culprit, according to Shore, is what he calls *ambi-Americanism*. He asserts that the majority of European Muslims are not anti-American, as this would imply being against America in its entirety—its policies, people, and products. From other studies and his own research, he finds that the vast majority of Muslims are more accurately described as ambivalent towards America insofar as they are drawn by some aspects while repulsed by others.

This ambi-Americanism is the foundation of Western disenchantment. Compounding this is a feeling of deep alienation from European society by Muslim immigrants. Many, if not most, immigrants suffered from a tremendous cultural adjustment that too often left deep hurts and angers that carry on to subsequent generations of Muslims. This failure to fully integrate into European society set a course for alienation and possible extremism, especially as the younger generation of European Muslims is being targeted by those seeking to fuel pan-Islamism. Add to this the Western response to stories of Muslim female genital circumcision, honor killings, terror attacks, and a general belief that Muslims are opposed to a free, democratic society, and we have all the materials needed for a potentially devastating "clash of civilizations," to quote Samuel Huntington.

Through it all, Shore presents a compelling read and good starting point for discussion of why some—and arguably most—European Muslims feel adrift in

the West. Unfortunately, there are significant weaknesses in Shore's argument. First, he offers only a superficial discussion of the issues. Throughout his numerous interviews, he offers no substantial questioning of the participants. For example, one of the men he speaks with discusses that in Islam, Muslims feel connected to each other on a very profound, spiritual level in which the suffering of one Muslim is felt by all Muslims. In this context, the man says that it is understandable why an extremist turns to terrorism when confronted with images of the Iraqi War. Shore leaves that at face value, failing to explore this belief in context of the Shia-Sunni conflict, insurgent attacks on Iraqi citizens, violent clashes between Hamas and Fatah in the Gaza, or even the Anfal campaigns of Saddam Hussein.

Additionally, Shore makes great leaps of logic. For instance, he speaks of the poverty gap in the United States and how this is viewed by European Muslims as an example of American social injustice, which is allegedly used to justify hatred of America and the West. But rationally, it seems facetious to say that the 9/11 hijackers, or the terrorists responsible for the London and Madrid bombings, cared about what the average American salary was compared to that of Bill Gates. Income gaps are not unique to America and certainly are prevalent in the Muslim world. Consider, for example, that in 2002 bin Laden had an estimated worth of $50–300 million; there also exists obvious economic disparities throughout Muslim countries like Saudi Arabia and the United Arab Emirates.

Finally, his biases resound through the book. Shore discusses at length the anti-Muslim comments made by Jerry Falwell and Pat Robertson, while ignoring equally heated and bombastic rhetoric from Imams and outspoken Muslim fundamentalists. While being quick to sermonize on the need for respectful dialogue from non-Muslims about Islam, he makes no similar condemnation of Muslim violence. Moreover, he expresses a clear bias against Israel. Shore frequently uses inflammatory words like "Zionist oppression" and Israeli "murder [of] innocent Muslim men, women, and children." While this may be the opinion of those he interviews, he adopts this rhetoric as if it were his own.

This leaves very real concern as to his underlying motivations for his arguments, especially in light of the fact that his recommendations require change only from the West. For Shore, Europe and America must better accommodate Muslim sensitivities. In contrast, he expresses no expectation that Muslim immigrants take some personal responsibility for their integration into Western society. There is no similar need for them to understand Western sensitivities as they pertain to a free, liberal society or how the actions of some radical Muslims can shape Western perspectives of Islam.

Despite these criticisms, *Breeding Bin Ladens* is a worthwhile read for those interested in strategy and policy. It provides a useful framework from which to begin—but not to end—exploring the culture clash between Western and Islamic values. This dialogue is vital if we are to maneuver the dangers of globalization. Without this exchange of ideas, people of opposing views cannot possibly find common ground, and there can be no growth of democratic ideals or liberal

values of human rights and pluralism. And in the end, this is what we need in order to peacefully embrace the challenges of globalism and better integrate the varied facets of our global society.

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The Last Crusade: Americanism and the Islamic Reformation by Michael A. Palmer. Potomac Books, Inc., 273 pp., $26.95.

Works on history may be divided into two broad categories. On the one hand are what might be called *descriptive* histories. These are primarily expository in nature and aim at simply recounting past events and explaining interrelationships and developments. On the other hand are those works that could be termed *prescriptive* histories. In contrast to the "scholarly" set, works of the latter sort are less concerned with history for its own sake than with its significance to contemporary affairs and tend to be more explicit in promoting a particular perspective on or interpretation of the past. While objectivity plays a greater or lesser role in all historical writing, some histories are clearly more "activist" in intention than others. Michael Palmer's *The Last Crusade* clearly fits into the latter category.

Palmer, formerly with the Naval Historical Center in Washington, DC, earned a doctoral degree at Temple University and currently serves as chair of the Department of History at East Carolina University in North Carolina. As a professor in the Maritime Studies program, Palmer's previously published works have focused on US naval history and other aspects of military affairs.

His foremost concern here is twofold: first, that the Muslim world is in need of modernization and that progress in this has been stymied by beliefs and practices hardwired into Islam—and are not, as many claim, the result of Western imperialism. As Palmer puts it, "A once-great Islamic culture has failed the test of modernity [and] has sought solace in a politically correct victimhood" that blames the West for its own inadequacies (p. 2). "Modernization," Palmer points out, "inevitably leads to secularization." But, at least in the Islamist view, "secularization conflicts with the central primacy of Islam in a Muslim's life" (p. 4). As a consequence, "Islam [has] become a relic of the past, or a less than viable alternative to traditional Western liberalism" (p. 10).

This leads to Palmer's second concern, namely, that the West must come to grips with the fact that it now finds itself facing a real enemy in a real war—not mere criminals who can be dealt with by law enforcement or intelligence services alone. As Palmer puts it in a statement headlining his own Weblog, "The Real War," his worry is that "there are too many people in the West who refuse to see that we are involved in what is a real and seminal struggle against Jihadists" and that "they must be understood for what they are . . . not freedom fighters, nor terrorists, [but] . . . Islamic warriors bent on restoring a global khalifate through armed struggle" (http://majpalmer.com).

Palmer presents an extended overview of developments in pre-Islamic societies, followed by the birth and spread of Islam, the rise and slow decline of Ottoman power, and the genesis of political Islam from its origins in the first half of the twen-

tieth century to its present manifestation in al-Qaeda. Drawing on the works of Bernard Lewis, Richard Bulliet, Martin Sick, and other experts in the field, Palmer posits that "the political unity that Islam offered" (p. 37) was responsible for both the initial rapid spread of Islam and the subsequent gradual stagnation of Muslim societies. As progress in the West began to quicken, starting in the Renaissance and the Enlightenment, Islamic societies increasingly slipped behind, resulting over time in disparities in both material prosperity and the means of projecting power. Jihadism issued from both the resentments resulting from this growing disparity and the accompanying encroachments of Western ways (i.e., modernization). In reaction, jihadists called for a revival of what they believed was the traditional source of Muslim strength: their Islamic faith—with the aim of freeing the world from Western control. To those in the West who await an Islamic Reformation, Palmer warns that "it has already arrived and its face is that of Osama bin Laden" (p. 178), a purifier of Muslim faith similar to the Protestant Reformation's John Calvin.

Against the universalism of Islam—especially its extremist Islamist/jihadist forms—Palmer opposes the equally universalist creed of "Americanism," the penultimate product of Western advancement, "a civic religion that combines political and economic pluralism, secularism, and the expansion of human liberties" (p. 234). Comparing the current contest to others that pit fundamentally different ways of life against one another in extended conflicts, such as the "Indian Wars," Palmer warns that the longer the struggle goes on, the greater the chance that the West will "shed its self-imposed restrictions and adopt an ever-more brutal and unlimited response," leading to a downward spiral of violence (p. 246). The only way of "avoiding such a scenario," he says, "is to end the war against the jihadists as quickly as possible" (p. 246). But he offers no suggestions as to how this might be accomplished—other than to call for Western solidarity.

While Palmer is correct to remind those living in the West that they have every right to defend their way of life and their values from assault, he fails to clearly distinguish modernization from Westernization, suggesting that the Muslim world must abandon fundamental elements of its identity or else continue to nurture the resentments born of stagnation. More importantly, he fails to sufficiently recognize the degree to which fundamentalism and extremism are expressions of an internal conflict within Islam over its relationship to modernity and have little to do with the West, per se. Thus, he fails to offer ways for Muslims to avoid the pitfalls of the past and the temptations of jihadism while also remaining true to their faith. If our goal is to modernize Islamic societies, then the key lies more in how we meet that challenge—and less in how we respond to the immediate jihadist threat. Unity among those in the Western world is well and good. But we must decide what we are unified in support of. Solidarity without purpose is merely empty posing.

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Author, *Rally Round the Flag, Boys! South Carolina and the Confederate Flag*

The Utility of Force: The Art of War in the Modern World by Rupert Smith. Knopf, 2007, 448 pp., $30.00.

Since its publication in Britain in 2005, Gen Sir Rupert Smith's *The Utility of Force* has garnered effusive praise from a large and eclectic group of commentators, ranging from Sir John Keegan to the *Daily Show*'s Jon Stewart. Even some academic reviewers, normally more stingy in their dispersal of accolades, have likened the British general to Carl von Clausewitz. Such acclaim should be taken with a grain of salt. Compared to the dense and timeless insights of *On War,* Smith's book comes across as a more meandering and prescriptive analysis of a particular moment in the history of warfare. Nonetheless, it contains some incisive and provocative analysis of contemporary conflict and serves as an example of how to think rigorously about military strategy and its relationship to politics.

Smith's insights are based on a broad range of recent military experiences. He led a British division in the Gulf War of 1991 and served as commander of the United Nations Protection Force in Bosnia in 1995. From 1996 to 1998 he served as General Officer Commanding Northern Ireland, and from 1998 to 2001 he was NATO deputy supreme allied commander Europe. Based on these experiences, he observes in the introduction that armed forces today are frequently asked to perform roles much different from those for which they have traditionally prepared. As a result, they have often struggled to achieve the objectives desired by their political leaders. To use Smith's terminology, the force they have applied has had little utility. The book is an attempt to explain why.

Smith develops his argument in a Clausewitzian manner. Part one of the book chronicles the development of what he calls the paradigm of interstate industrial war. Initiated by Napoléon and refined by American and German politicians and generals during the nineteenth century, this form of warfare culminated in 1945. In part two, Smith focuses on "people's wars," which he identifies as the antithesis to interstate industrial war. He traces their history from the Spanish uprising of 1808 through the partisan campaigns of the Second World War. Smith then identifies a synthesis in a new paradigm of conflict that he calls *war amongst the people*. Although it first emerged after 1945, this paradigm became fully evident following the end of the Cold War.

War amongst the people is characterized by six interconnected trends. First, the objectives of conflicts have become less absolute, with armies fighting to achieve general conditions rather than specific and tangible ends like the destruction of the enemy force and the overthrow of the opposing state. Second, armed forces conduct operations literally in the midst of civilian society and figuratively in front of it, via the global media. Third, given the often intangible objectives for which they are fought, conflicts tend to be timeless. Fourth, Western armies increasingly fight in ways that minimize losses to their own forces. Fifth, armies are required to put old weapons to new uses. Finally, the actors in conflicts are often nonstate entities such as terrorist groups or multinational coalitions. Overall, war amongst the people is

characterized by the continual intermingling of military and political activities. It also sees ongoing fluctuation between political confrontation and outright conflict.

According to Smith, the limited effectiveness of Western militaries since 1991 reflects their continued focus on interstate industrial war despite the emergence of a new paradigm of conflict. Part three of the book explains this problem and offers recommendations based in part on Smith's own experiences in Bosnia. Smith emphasizes the importance of managing multinational forces carefully and maintaining effective relations with both the media and the civilian population amongst which military forces operate. He notes that in war amongst the people, intelligence regarding enemy intentions is at least as important as information regarding enemy capabilities. Above all, he argues that the use of military force will not be effective unless it is combined with political, diplomatic, and other tools and situated within an overarching strategy to achieve a clearly defined objective. In his words, "The strategic object cannot now be achieved through the singular use of massive military force alone; in most cases military force can only achieve tactical results, and to have more than passing value these must be stitched into a greater plan" (p. 378).

Smith could have made his case more succinctly. His detailed explanations of interstate industrial war and people's war are not new, and they reveal an uncertain grasp of military history and theory. For example, Smith's discussion of the First World War focuses almost entirely on Britain and Germany and ignores a wealth of recent scholarship on British tactical innovation. In discussing Vietnam, Smith implies that it was John F. Kennedy, rather than Dwight Eisenhower, who first dispatched military advisors to support the Diem regime. In addition, despite the influence of Clausewitz on *The Utility of Force*, Smith is not particularly careful in his definition and application of Prussian ideas. He reduces the "remarkable trinity" of violence and hatred, the play of chance, and rational calculation to the simpler but less accurate "people, army, and state." Smith then applies this stripped-down version of the trinity in ways that would likely have bewildered Clausewitz himself. In discussing German unification, for example, he argues that the army "was the dominant element. It used the people to create the state, since conscription was as much a tool for nation building as a way for manning the army" (p. 92). These shortcomings do not undermine Smith's central thesis significantly, but neither do they lend credibility to it. Moreover, they may mislead readers unversed in the history of modern war.

A shorter book focusing specifically on contemporary conflict would likely have delivered Smith's argument with greater force. Nonetheless, in its present form the book is replete with insights into the problems facing Western militaries today. Smith's concept of war amongst the people serves as a powerful lens through which to view the current American predicament in Iraq. Some scholars might argue that military force retains more strategic potency than Smith allows. Few, however, would contest his assertion that it must be coordinated more effectively with other tools of power in order to prevail in the conflicts of the twenty-first century.

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Air War College

Virginia at War, 1862 edited by William C. Davis and James I. Robertson Jr. University Press of Kentucky, 2007, 243 pp., $35.00.

Each year hundreds of new books are published on the Civil War alone, with only a select few worthy of high praise. One such work, the vast undertaking of Civil War historians William C. Davis and James I. Robertson Jr., is worthy of such praise. Eight eminent historians contributed articles to *Virginia at War, 1862*, touching on topics including Virginia's industry during the war, hospital system in Richmond, home front, and supply system.

John S. Salmon's fine essay on land operations profoundly states that 1862 became a turning point for civilians in Virginia, with many realizing that the war would become a "bloodletting unprecedented in American history" (p. 13). During a five-week period, Brig Gen Thomas "Stonewall" Jackson—with his 17,000-man foot cavalry—defeated three various Federal armies, inflicting roughly 7,000 casualties while only suffering approximately 2,500. The realization to both sides would come on 13 December with the Federal attack at Fredericksburg by Maj Gen Ambrose Burnside. With General Jackson on the right and Maj Gen James Longstreet on the left at Marye's Heights, General Burnside's Federals entered a virtual "meat grinder" and suffered over 12,653 casualties. This final battle of 1862, a Confederate victory, produced the first occurrence of heavy shelling and major looting of a city in the South (p. 47).

Not only had Virginians realized that the war could rage longer but Confederate authorities also came to this conclusion in the fall of 1862. Wilson points to the Confederate Congress's ending of the commutation system on 8 October 1862 as proof. Congress established 2,000 cobblers and detailed them to the government for the manufacture of shoes. Three days later, the Second Confederate Conscription Act authorized the "quartermaster general to delimit the profits of all contracting mills to seventy-five percent on costs through the control of exempt or detailed workers" (p. 33).

The Second Confederate Conscription Act not only delimited the profits from the mills but also expanded the age of men drafted from 35 to 45, increased the number of exempt occupations, and allowed an exemption for those who owned or supervised 20 or more slaves. John G. Selby, in his essay on Virginia's civilians, stated that substitution under this new act provided "some essential income for the needy," with the prices for substitutions in April averaging around $1,000 and doubling by the end of the year (pp. 45–46). But civilians had other fears besides conscription.

As in any war or conflict, civilians constantly feared being looted and pillaged, which could be on a "colossal scale," but Virginians had little to fear. Unlike Kentucky, where one month after the firing on Fort Sumter roving guerrilla parties were spotted in the Lexington area, Virginia witnessed very little of this. Importantly, Selby points out, "random acts of kindness" occurred while "Northern soldiers and Southern civilians tested the boundaries of a new, forced relationship" (p. 38). However, in July 1862, three Federal armies scattered across Virginia were consolidated into the Army of Virginia under the command of

Maj Gen John Pope. Selby touches briefly on three general orders that General Pope issued shortly after taking command with the backing of Pres. Abraham Lincoln, which Selby believes "significantly altered the policy and perhaps the outcome of the war" (p. 42). One such order, General Order No. 11, would be used by various Federal commanders throughout the Border South and South in dealing with the citizenry—the oath of allegiance to the Union. This order stated that those who violated their oath would be "shot, and [their] property (including slaves) seized and applied to the public use" (p. 42).

Virginia at War, 1862 contains an excellent essay on the Confederate hospital city, Richmond. In February 1861, the Confederate Congress authorized the establishment of the medical bureau, to be headed by Surgeon General Preston Moore. As David J. Coles highlights, Moore had the monumental task of building an Army hospital system from scratch. By 1862, Richmond developed into not only a political and military center but also a medical center; by war's end, hospitals throughout Richmond would treat between 200,000 and 300,000 men. Coles ably convinces the reader that 1862 was the turning point for medical care with the development of the "encampment" hospitals, along with smaller general hospitals established and funded by specific states to treat their soldiers (p. 72). Ultimately, six encampment hospitals were established: Chimborazo, Winder, Howard's Grove, Louisiana, Jackson, and Stuart. Chimborazo consisted of more than 150 buildings with close to 100 wards and became the most famous of the six encampments, having a capacity of over 3,000 and treating roughly 78,000 patients by war's end (p. 75).

One downfall of this compilation was in Brian Steel Wills's essay, "Virginia's Troubled Interior." Wills ably describes the Virginia state line, which constantly changed hands throughout the war. Bushwhacking (or guerrilla/irregular warfare) was not an uncommon act on the border of western Virginia and Kentucky. It was in this region that Confederate brigadier general Humphrey Marshall with his Army of Eastern Kentucky would base their operations, but they were constantly hampered by small bands of guerrilla fighters. Wills fails to point out that these groups rarely cared which side they were attacking—with booty their prime objective—or the frequency with which they occurred in this area. Wills points to Brian McKnight's *Contested Borderland: The Civil War in Appalachian Kentucky and Virginia* (2006), which expertly handles the environment in western Virginia during this time.

Davis and Robertson have produced an excellent second book for the Virginia Center for Civil War Studies. The editors have skillfully assembled essays that examine various aspects of society in the context of this turbulent period. Overall, *Virginia at War, 1862* is an excellent work that helps to inform the military historian/strategist about the initial stages of this epic conflict in our history. Serious historians should include this on their bookshelves as a reference on the initial stages of the Civil War.

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The Moral Disarmament of France: Education, Pacifism, and Patriotism, 1914–1940 by Mona L. Siegel. Cambridge University Press, 2004, 227 pp., $80.00.

Mona Siegel, assistant professor of history at California State University, Sacramento, explores the connections between educators, the society they serve, and the roots of pacifism and patriotism. In doing so, she tackles one of the most difficult cases, the French experience from the beginning of World War I until their defeat by Germany in 1940. Using a wealth of archival sources and contemporary school textbooks, she revises orthodox scholarship that holds French schoolteachers partly responsible for the moral decay of their nation that led to the catastrophe of 1940. According to the narrative promulgated first by members of the French right and later picked up by Marshal Philippe Pétain's Vichy government, schoolteachers sapped the national will between 1918 and 1940 by indoctrinating students with pacifist doctrine. This labeling of schoolteachers was just one of many attempts the right made to relieve pressure on the army by identifying scapegoats for the French defeat. Like other such attempts, the case of schoolteacher culpability for the flaws in French society in the interwar years is much more complicated.

Siegel begins by showing how teachers' values mirrored those of the nation at the beginning of the Great War. She uses textbooks produced during the war along with lesson plans and student class exercises from several regions to paint a picture of the nation's determination to defeat the German invaders. Women consistently emerge as influential agents because of the demand for men to serve in the trenches. Over time, the teachers began to reflect on the terrible materiel and human costs of the war, which prompted subtle shifts in the ways they communicated moral lessons about the war to their students. This was not unique to the teaching profession; war-weariness affected all of French society as four long years of sacrifice took its toll. Nevertheless, teachers remained patriotic and loyal throughout the conflict.

In the immediate aftermath of World War I, schools adopted a narrative that sought to honor the French poilus' sacrifices while blaming the Germans for the devastation that accompanied the war. Once again, Siegel shows that the curricula supported the general thrust of government and popular opinion rather than seeking to undermine the national spirit. But the persistent evidence of the war—especially in those regions where the fighting occurred—gradually began to influence a shift in how French educators viewed the utility of war as a national policy.

Women comprised the vanguard of social change because of their roles as mothers and teachers. Siegel shows that the removal of men from large segments of the workforce brought women in contact with jobs and responsibilities that they had never experienced before. This was especially true in the teaching profession, which even before the war had represented one of the few professional outlets for women in a nation where women did not have voting rights. The

continuation of a strong feminine presence in the teaching profession—added to the voice of war veterans who grew increasingly disillusioned about the utility of war—began to shape a consensus that favored collective security and disarmament over the power balancing that had led to war.

The labor movement also played a significant role in how teachers expressed their opinions about the utility of war between 1919 and 1940. The Syndicate Nationale (SN) became the most influential union representing teachers' interests. It also became a platform for shaping national education policy because it attracted a large swath of teachers from across the nation. Through the SN teachers debated the value of war, pushed for educational reform, supported militant teachers who protested government mandates for curriculum or textbook content, and refined their opinions about how to approach the subject of war with their students. One union member proposed eliminating history as a curriculum subject because the available histories of the day were inevitably focused on wars and competitions between nations, with the rationale that propagating a view of war as a normal event in the interaction between nations made its occurrence more likely. Although the proposal met with defeat, the debate it sparked caused many teachers to question the content and methods they used to educate their students about war.

The collective security impulse also encouraged French teachers to reach out to their counterparts in other countries in a couple of different ways. The SN attempted to forge relationships with German unions. In the early interwar years these efforts met with obvious difficulty owing to the lingering resentment harbored toward the German people—in later years visits between French and German educators reflected an awareness of the need to create vehicles for understanding the perspectives of other nations as a way to prevent conflict. Unfortunately, the Nazi rise to power in Germany curtailed the burgeoning relationship between educators just as it began to gain momentum. The other significant alternative that Siegel explores was the effort to create a common language, Esperanto, to increase understanding among European nations. This met with even less success than the exchanges because of the lack of buy-in among teachers, the government, and students and their families.

As war loomed on the horizon, teachers shifted their perspective from one that opposed war at any cost to one that accepted the necessity of defensive warfare. Here again, Siegel shows that rather than acting as agents determined to sap the national will, teachers' values and opinions reflected the will of the nation that was firmly grounded in the Republican ideals of *liberté*, *égalité*, and *fraternité*. Moreover, teachers left their classrooms to serve in the army without protest or question when France declared war in September 1939. Far from being a subversive influence that actively campaigned to defeat the nation, teachers enriched the debate about the utility of war and encouraged efforts to find collective solutions to international problems.

The French loss to Germany left scars on the national psyche that persist even until the present. This prevails in part because of the attempts to shift blame for

the defeat to various groups within the society. Mona Siegel shows that in the case of teachers, the blame is not as cut-and-dried as the orthodox interpretations would have us believe. French teachers certainly developed a consensus centered on pacifism—but a pacifism rooted in a deep sense of patriotism. They taught their students to be reluctant to go to war, not to refuse to go to war in defense of their nation. There are many lessons for today in this book. Through her excellent research and writing, Siegel points to the socializing role of educators, to the role of women as leaders in society, to the utility of war, and to the dangers of accepting simplistic explanations for complex problems. Strategists would do well to consider how these issues might affect the national consensus today and in the future.

Anthony C. Cain, PhD
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Triumph Forsaken: The Vietnam War, 1954–1965 by Mark Moyar. Cambridge University Press, 2006, 542 pp., $32.00.

Mark Moyar's *Triumph Forsaken* is testimony to the continuing tumultuousness of the Vietnam War's historiography. The nature of the war, the causes of America's defeat—even that we were defeated—remain hotly disputed. The war itself may have ended in 1975, but it continues to be waged among American historians and political commentators. Indeed, much of what has been written about the war is ideologically adulterated. Leftist orthodoxy, still the dominant school of thought, holds that the war was both immoral and strategically mistaken, whereas an emerging neoconservative revisionist school sees the war as a noble and strategically imperative, albeit poorly executed, undertaking.

Moyar—who received his doctorate from Cambridge, now teaches at the Marine Corps University in Quantico, Virginia, and considers himself a victim of liberal academic bigotry—stands firmly on the revisionist Right. Indeed, Moyar's book is *the* Vietnam War book for those who still believe that the United States had vital interests in South Vietnam's survival; that US abandonment of South Vietnam in 1965 would have triggered the communization of the rest of Southeast Asia; that Vietnamese nationalism was a minor force on the Communist side of the war and had little to do with the war's outcome; that Ho Chi Minh was simply a stalking horse for Chinese imperialism; that South Vietnamese president Ngo Dinh Diem was a wise and effective leader who had the Communists on the run until the United States stupidly incited a coup against him; and that journalists David Halberstam and Neil Sheehan were unwitting accomplices of Hanoi.

It is no wonder that *Triumph Forsaken* has received loud applause from neoconservative organs—e.g., the *Wall Street Journal*, *Weekly Standard*, *National Review*, *Washington Times*, *New York Sun*—which continue to preach that America's defeat in Vietnam was self-inflicted by presidential meddling in military operations, a hostile media, and a near-treasonous antiwar movement. Moyar makes no bones

about his determination to challenge what he terms "the reigning ideological orthodoxy" on the war, which is centered among liberal American university professors guilty of "haughty derision and ostracism" of those who, like Moyar, take a contrary view. Indeed, Moyar once told a colleague of mine at the Air University that, as an undergraduate, he determined the liberal orthodoxy in the war to be so wrong that he decided to go to graduate school in part to obtain the academic credentials necessary to credibly challenge that orthodoxy.

There is no question that the liberal orthodoxy on the war is well-entrenched among university social science departments across the country and that the very nature of orthodoxy, liberal or otherwise, makes it intolerant of those who question fundamental assumptions. There is also no question that *Triumph Forsaken,* which covers American policy and events in Indochina from 1954 to the commitment of US ground combat forces in 1965 (a second volume covering the remainder of the war is in the works), is the most detailed revisionist work published to date. Thoroughly researched, well written, and focused as much on the Communist side of the war as on the American side, *Triumph Forsaken* builds on previous revisionist works, notably Michael Lind's *Vietnam: The Necessary War* (2002) and C. Dale Walton's *The Myth of Inevitable U.S. Defeat in Vietnam* (2002), by offering (in Moyar's own words) "many new interpretations" and by "challeng[ing] many orthodox interpretations that have hitherto gone unchallenged."

Yet, in attempting to refute virtually every tenet of the liberal orthodoxy—and some, especially of the Marxist variety, are untenable—Moyar establishes a counterorthodoxy of his own, replete with evidence-challenged assertions and counterfactual hindsights. (Hindsight is never 20/20 vision; it is, rather, a refraction through the lens of subsequent events. The Munich Conference of 1938 is notorious only because it was followed by World War II and the Holocaust; we would have long since forgotten it had Hitler dropped dead after his last meeting with Neville Chamberlain.)

Moyar announces that "the domino theory was valid," that Vietnam was "a wise war fought under foolish constraints," and that the United States could have won the war early on had it stuck with Diem and invaded Laos and North Vietnam—bold moves that would have provoked "a Chinese abstention from the fighting." He further announces that the stakes were enormous. A US decision to relinquish South Vietnam in 1965 would have triggered "the crumbling of American power in Asia," including the "defection of Japan" and the loss of "access to vital Indonesian sea lanes." (The United States would then "have [had] to invade Indonesia" to restore that access.) Worse still, "forfeiture of South Vietnam" would

> decrease America's national strength and undermine confidence in the United States across the world, thereby reducing America's long-term ability to resist Communism on the remaining Cold War fronts in Europe, the Middle East, and Latin America, which then might lead to the termination of key alliances and to major alterations in the trajectory of . . . the Cold War.

Sound familiar? It should. It is the same kind of apocalyptic rhetoric the Johnson administration used to mobilize public support for intervention in a war that was just as unnecessary as the neoconservatives' strategic fantasy-driven American invasion of Iraq in 2003.

Triumph Forsaken is as ideologically contaminated as the liberal orthodoxy it seeks to refute. As such, it contributes little to a better understanding of an exceptionally complex war that continues to arouse American political passions.

Jeffrey Record, PhD
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Letter to Editor

Busting the Icon: Restoring Balance to the Influence of Clausewitz (Fall 2007)

Congratulations on the first issue! A fresh approach is as welcome as it is needed. Excellent articles . . . generally. Meilinger writes with a fine, challenging style. For over 200 years writers and thinkers have both praised Clausewitz as the second coming or critiqued him as a pseudo-analyst upon whom generation after generation has overrelied, bringing untold hardship upon the human race. Both perspectives have overstated the case. And while there have been gross misunderstandings of what Clausewitz was attempting to say and to accomplish—and significant problems from armchair warriors roaming the countryside—Clausewitz himself stated that hopefully someone else with a greater ability (and more thorough understanding of Kantian metaphysics and its relations to time and space) would arise to bring forth what he was working on and to refine the preliminary work—a preliminary work. "Absolute" by definition in Kantian explication is that which is not in time and space. Once something arrives in the dual human intuitions of time and space, it ceases to be absolute. Clausewitz was tasked with understanding the implications of the new Kantian metaphysics for warfare. That Clausewitz argued absolute warfare had arrived on European battlefields marks the fundamental misunderstanding of the system he was tasked to understand and "operationalize" in empirical reality. He knew he had tried, and he knew he had come up short. Kant takes a lifetime—Clausewitz had only a very short time to fathom something that had not come along since Copernicus. The original misinterpretation is now being critiqued, and this misinterpretation of the misinterpretation is being brought forth with intent to clear the fog. God only knows why members of our officer corps find chance and uncertainty so difficult to deal with—much of their education has been based on it. Meilinger, on the other hand, should be congratulated on bringing some of us out of our slumbers (note Kant's reaction to Hume). Again, congratulations on a fine first issue!

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Strategic Studies Quarterly (SSQ), a refereed journal of ideas and issues, serves the greater defense community by providing a forum for the critical examination of and debate about warfare, strategy, national and international security, and defense policy. The intent is to explore significant issues of current and continuing interest to the United States Air Force and the Department of Defense and to serve as a vehicle for the intellectual enrichment of senior military officers, members of the government, and academia.

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